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LECTURES BY M. DE BLAINVILLE ON COMPARATIVE OSTEOLOGY.*

THE

COMPARATIVE OSTEOGRAPHY

OF THE

SKELETON AND DENTAR SYSTEM

IN THE FIVE CLASSES OF

VERTEBRAL ANIMALS,

RECENT AND FOSSIL.

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WITH GRAPHIC DELINEATIONS BY M. WERNER;

EDITED (FROM THE FRENCH) AND

ADDITIONALLY ILLUSTRATED

WITH NUMEROUS NOTES, OBSERVATIONS, AND DRAWINGS,

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HAVING thus laid down a rule, a standard of comparison of the bones generally, and also of the skeleton as a whole, from that of a convenient specimen, it is easy to ascend to the chimpanzé now placed at the top of the scale, and to descend to the mandrill, a species evidently the lowest in the scale.

In the ascending series of the cercopitheci, or guenons, properly so called, it will not be easy to perceive the specific differences, unless, perhaps, in the head, and especially in the jaws.

There exist, assuredly, no differences in the number of bones, which is precisely the same in the spinal column,† excepting in the coccygeal vertebræ, which vary from eight to twenty, and twenty-three; this is also the case with the number of sternebræ; and, consequently, the number of *sternal* and *asternal* ribs. Thus, the ribs are generally twelve, eight *sternal* and four *asternal* as well in the Talapoin, the first species of the genus Guenons, as in the Nisnas, which is the last species.*

The anterior and posterior limbs in all the species present the greatest similarity, so that it is not easy to point out differences, excepting in the proportion of some parts, and even those are very slight, as, for instance, the clavicle and the thumb are proportionally longer in some species than in others.

The specific differences, in ascending the scale, show themselves more distinctly in the proportion which the cranium holds to the jaws. In fact, just as we study a more elevated species of the guenons, the more striking is the diminution in the prolongation of the snout, the projection of the superciliary crests, and the diminution of the inclination of the symphysis of the chin.

These differences distinctly increase in the same ratio when we pass to the division *cercopithecus*, or guenons, with the delicate limbs, and which have received the generic terms of *semnopithecus* and *colobes*.

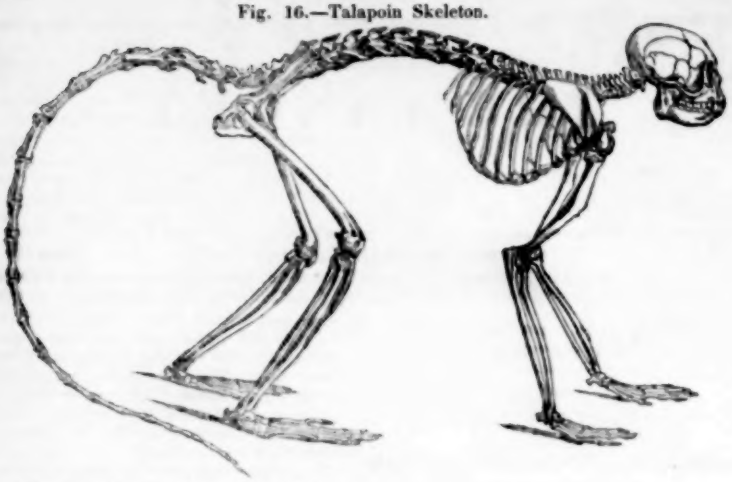
In the semnopitheci and colobes, in truth, the head, as a whole, is still shorter than in the first species of guenons, properly so called, and always for the same reason, viz., the having a larger cranium, a forehead more arched, and shorter jaws; the nasal portion of the forehead (*chanfrein*, Note 1, p. 219,) becomes evidently thicker between the orbits, and almost straight in a line descending from the root of the forehead.

* For the Lectures already published, see LANCET, Nos. 843, 844, 845, 847—Vol. I., 1839—40.

† I ought, in the mean time, to remark, that I have found two exceptions,—one in a skeleton of the p. nictitans (guenon, hocheur, Desm.; guenon *à long nez proéminent*, Allam. et Buff.; simia nictitans, Linn.) The second exception was in a skeleton of the p. pyrrhonotos. These skeletons have only six lumbar vertebræ, without, however, having an additional dorsal vertebra. Although these exceptions are, in all probability, anomalies, I have not ascertained the fact, having only a single skeleton of each species.

* Camper speaks of a cercopithecus, which has, as usual, twelve pairs of ribs, but of which seven pairs only were *sternal*.

Fig. 16.—Talapoin Skeleton.



Guenon talapoin, pithecus talapoin.
Guenon talapoin, cercopithecus talapoin, Desm.
Simia talapoin, Linn.
Talapoin, Buff.
Talapoin monkey, Penn.
Habitat, Africa and India.

Engraving after a natural skeleton made under M. De Blainville's own personal inspection. The shoulder is slightly depressed, so as to bring into view the entire range of the spinous processes of the vertebral column.

The rest of the spinal column, and especially the tail, on the contrary, is more elongated; still the number of vertebræ is generally the same, viz., seven cervical, twelve dorsal, seven lumbar, three sacral, and twenty-one coccygeal, of which one only is subsacral.

The body of these vertebræ is, however, generally more elongated. The spinous processes, also, have not quite the same proportions; they are, in fact, generally more flat, smaller, and rounder.

There are only six sternebræ; the sixth and seventh of the callitriche are wanting (run together); they are still straight and elongated, but evidently less so than in the callitriche; an arrangement which would alone suffice to indicate a nearer approach to the primary simiæ or apes.

Notwithstanding the diminution in the number of the sternebræ, the ribs are still twelve in number, but seven only are sternal, the sixth and seventh close together, and five a-sternal, as in the human species. All the ribs are, besides, broader and flatter than in the callitriche.

The limbs are generally longer and more delicate than in the typical guenon, which we have selected as a point of comparison, the increase in length being evidently more on the arm and forearm than on the hand, which seems still smaller.

The scapula is also much smaller than in the callitriche, seeing it equals one-half the humerus in length, whilst in the callitriche it is more than the half.

The clavicle is evidently straighter.

The humerus and the bones of the forearm are of the same length, but those of the forearm evidently more slender.

This is also the case with the bones of the hand. The bones of the carpus are still very similar, being nine in number, and similarly disposed; but the bones of the metacarpus and phalanges are proportionally more elongated, and especially those of the third and fourth fingers; for as to the fifth, and especially the first (or thumb), they are at once proportionally shorter and evidently more delicate.

The examination of the posterior limbs leads to the same or similar results.

The iliac and ischiatic bones, in the semnopitheci, equal in length two-thirds of the femur, whilst in the callitriche they equal four-fifths, still the femur is proportionally longer. For instance, in the *P. Sabæus* it equals the tibia, whilst in that of the *Entelle*, for example, it is longer by a seventh part.

The tibia and fibula are proportionally elongated when compared with the radius and ulna, a similar remark made with regard to the semnopitheci. The leg (between the knee and ankle) is long, both bones are

very straight, and the fibula is particularly delicate and straight.

The foot is likewise, upon the whole, long and straight; but the tarsus is proportionally a little shorter. On the contrary, the metatarsus and phalanges, which constitute two-thirds of the whole length, are, at the same time, more delicate.

The relative proportion of the four last fingers is nearly that of the callitriche, only the thumb is, like the hand, a little less, and of course the three bones which compose it.

This disproportion of the thumb ought, unquestionably, to go on increasing, just as the species approach the colobes or semnopitheci of Africa, which want the thumb; but we have not seen the skeleton.

Above the semnopitheci, which present but slight differences amongst themselves, if it be not in the case of the thumb, of which we have just spoken, is placed a species known by the name of soulili (*p. mitratus*), and which, with the general arrangement, and delicacy of the guenons, presents a nearer approach to the superior apes or gibbons, both in the form of the head and in several other points.

With those animals, whose habitat appears exclusively, continental and insular India, commences the series of species

Fig. 17.—Skeleton of the Gibbon.

Gibbon varié (Note 2, by Dr. Knox, p. 219), orang varié, pithecus variegatus.
Simia lur. varietas, Linn. Gmel.
Petit gibbon, Buff.
Habitat, Malaccas.

Engraving after an *artificial* skeleton with regard to the carpal bones of which, M. De Blainville entertains doubts. The head he thinks not to be that originally belonging to the skeleton.

whose thorax is less compressed than the guenons, whose sternum is short, large, and flat, as in the human structure, and in which the tail is nearly as rudimentary as in man himself.

The gibbons, properly so called, are arranged immediately above the soulili by their system of dentition, which we will prove when treating of the odontography.

The head presents but slight differences, except in the greater expansion of the cerebral cavity; this expansion is particularly developed over the parietal protuberances. The forehead is more developed over the orbitar arches, which are less thick, and obscurely marked. The great wings of the sphenoid touch broadly the parietal bones; (Note 3, by Dr. K., p. 219.) The upper margin of the squamous bone rises considerably above the inferior orbitar margin.

The jaws project nearly to an equal extent, so that the facial angle is about 45° at most. The symphysis of the chin is always still less oblique. The palatine arch is, on the contrary, considerably more extended, its anterior suture (*palato-maxillary*) reaching the level of the principal molar tooth, or first permanent molar.

The premaxillary, smaller perhaps, particularly in its ascending branch, which scarcely reaches the nasal bones, appears likewise to unite mesially at an early period of life, and forms rather smaller incisive foramina than in the guenons.

The spinal column, in consequence of the absence of the tail, is much shorter; it is also approaching more the human type, inasmuch as its general form is more pyramidal; still, it is arched almost in one direction in its whole extent.

The number of vertebræ, on the other hand, differs from that of the human; there are thirty-seven in all; viz., seven cervical, thirteen dorsal, five lumbar, seven (three?) sacral, (see Note 4, by Dr. Knox, p. 220,) and three (seven?) coccygeal.

The cervical vertebræ have their spinous processes, as in the inferior simiæ, and they are generally of the same form, and nearly of the same proportions. The transverse process of the atlas is larger, however, and the extremity of the others is bifurcated: the spinous process of the seventh (vertebra prominens) is more elevated than that of the dorsal.

The dorsal vertebræ (thirteen in number) have their spinous processes much more vertical, and generally inclined in the same direction, backwards.

The lumbar vertebræ (five in number) are short, and, like the dorsal, have their spinous processes large and short; the transverse processes are weak, the last stronger, and looking from before, backwards; the posterior articular processes have scarcely as yet that styliform spine which doubles them in the callitriche, and is specific.

The sacrum is still composed of three vertebræ; but the sacro-iliac articulation is larger than in the simiæ in the descending scale, since it includes two entire vertebræ, and one-half of a third. There are also three pairs of sacral foramina, well-marked, in consequence of the union of the first coccygeal.

The coccygeal vertebræ (seven in number) are externally flat; three or four of them are slightly escavated internally, and are perhaps of still less use, as a tail, than in the human species.

The os hyoides of the gibbons differs from that of the guenon, which we have selected as a type of comparison, by approaching in form more the human character; its body is narrower, and its horns more disproportioned; the *styloid* horn being much smaller than the laryngeal, and not conical in form.

The sternum is large, short, approaching the human in form, and composed in the adult specimen at least, of three large portions: an anterior, which represents two very unequal sternebræ, and which, in fact, supports two pairs of ribs; a central part, of moderate dimensions, which corresponds to three or four sternebræ in the callitriche, and with which, in fact, are articulated the other five pairs of sternal ribs; lastly, a third portion (xiphoid) of considerable length, very narrow, and placed between the united cartilages of the asternal ribs.

The ribs (thirteen* in number) seven sternal and five asternal, are in general very long. At the same time, the union of dorsal vertebræ, sternebræ, and ribs, forms a rather short thorax, very capacious in its transverse measurement, and, as near as possible, of the human form.

The gibbons present in their limbs a peculiarity (forming rather an exception than a link in the chain) not only in their great length, but in their great delicacy.

The scapula is rather small, triangular, oblique, and furnished with an elongated acromion process, and a coracoid, also remarkable for its length and size.

The clavicle is of great length, greatly exceeding that of the scapula, whereas in the callitriche, the guenon, which we have taken as a type of comparison, it does not equal it in length by two-thirds. It is not more than half the length the humerus; in other respects, it is delicate and compressed.

The humerus is of extraordinary delicacy, and its length equals that of the trunk, that is, of the back and loins united. The bici-

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The forearm is still longer than the arm, by a seventh at least; and the bones which form it are of a delicacy altogether extraordinary; their surface is nearly smooth.

The carpus is very short, but in other respects formed as in all the apes, of four bones in each row, and an intermediate bone placed, as usual, between the scaphoid (whose internal process is very considerable) and the trapezium and trapezoides. The hook-like process of the unciform bone is also well developed.

Daubenton has described eleven bones in the carpus, two more than in our specimen; but, without doubt, these are nothing more than sesamoides, viz., that of the long abductor of the thumb and anterior cubital.

The hands are truly spider-shaped, so delicate are the bones forming them.

The metacarpal bones, and the digital phalanges especially, are arched, and convex superiorly, flat inferiorly; in other respects the thumb is of considerable length.

The posterior limbs are much shorter than the anterior.

The ossa innominata are large, and the [illegible] fossa is flat, the internal fossa [illegible] remarkably flat.

[illegible] lation is large and [illegible] straight, even [illegible] siderably larger [illegible] little more deli- [illegible] The depression [illegible] siderable; the digital cavity at the root of the great trochanter is also deep and round, the small trochanter is very much elevated, and the linea aspera is scarcely apparent.

The leg is a little shorter than the thigh, which is the opposite in the callitriche; both bones are, however, long and delicate, slightly arched inversely, the fibula forming a considerable malleolus externus.

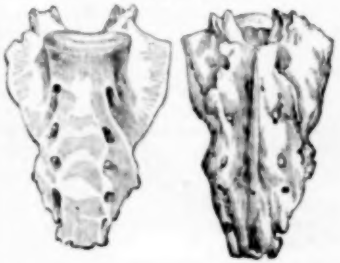
The foot is proportionally very small and narrow.

There are the usual number of seven bones in the tarsus, and if Daubenton has reckoned eight, he has included the sesamoid bone of the long peroneal tendon.

The calcaneum is short, and directed obliquely upon the inner side; its tuberosity is slightly elongated, and dilated in both directions at its extremity.

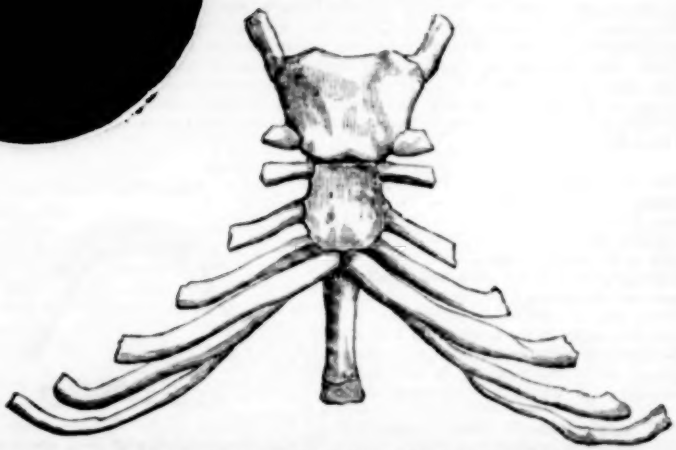
The astragalus has its pulley very shallow, though oblique, and its head very much advanced obliquely inwards.

Figs. 18 and 19.



Sacrum viewed in its anterior and posterior aspects.

Fig. 20.



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The posterior limbs are much shorter than the anterior.

The ossa innominata are large, and the external iliac fossa is flat, the internal fossa particularly is indeed remarkably flat.

The sacro-iliac articulation is large and oval, but oblique.

The femur is remarkably straight, even more so than in man, considerably larger than in the semnopitheci, a little more delicate than in the callitriche. The depression for the *ligamentum teres* is considerable; the digital cavity at the root of the great trochanter is also deep and round, the small trochanter is very much elevated, and the linea aspera is scarcely apparent.

The leg is a little shorter than the thigh, which is the opposite in the callitriche; both bones are, however, long and delicate, slightly arched inversely, the fibula forming a considerable malleolus externus.

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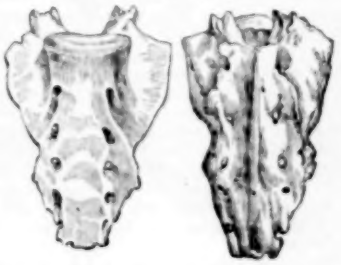
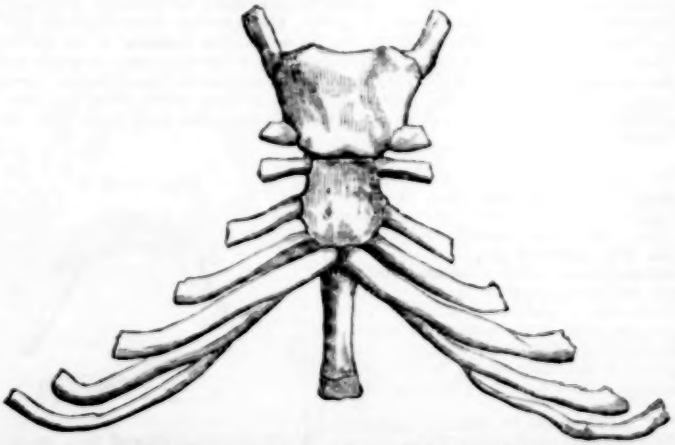


Sacrum viewed in its anterior and posterior aspects.

Fig. 20.



Sternum of the Pithecus syndactylus, viewed from its peripheral aspect.

Fig. 21.

Skeleton of the Orang-outang, De Wurmb (*P. satyrus*).
Orang roux, *pithecus satyrus*, Desm.
Simia satyrus, Linn.
Jocko, Buff.
Habitat Central Asia, the Malacca Islands, Cochin-China, the Island of Borneo.

Engraving from a skeleton, viewed in profile, after a perfect skeleton of an adult male in the Museum at Paris. The specimen was taken from the museum of the Stadtholder, and had often (over and over again) been represented under the name of *pongo*, and in a *vertical* position; but which I (M. De Blainville) have caused to be altered as unnatural.

A part of the carpal bones and metatarsal having, without doubt, been lost, they have been imitated by a composition of gum and varnish, and hence those parts of the skeleton are doubtful.

The first cuneiform bone is always the strongest; the great toe, also, is rather strong, much more so than in the other apes; it equals, in truth, about two-thirds the length of the middle finger.

The metatarsal bones decrease rapidly in length and thickness, from the second to the fifth—in itself a remarkable peculiarity, and which also exists in the metacarpal bones.

We find still a farther advance, or a nearer approach to the orang-outang, in the gibbon syndactyle,* in whom the phalanges of the

Figs. 22 and 23.

Hyoid apparatus viewed from above and in profile.

* P. syndactylus, De Blain.; orang syndactyle pithecus syndactylus, Desm.; simia syndactyla, Raffles; siamang, F. Cuv.

hands and feet are more curved and swollen in the middle; but particularly the sacrum is much more developed, more in the form of a wedge; above all, it is composed of five vertebræ, all completely united, and of which the first three, and even the fourth slightly, are distinctly articulated with the iliac bones. The spinous processes of these sacral vertebræ are united into a crest, almost like the sternum of a bird.

The skeleton of the orang-outang, (Fig. 21,) considered for so many years so closely allied to the human, and as holding the most exalted station amongst animals, is, nevertheless, both in respect to its general form and its details, but a mere exaggeration of that of the gibbons, and this more in respect to bulk than in any other relation.

The adult head, particularly in the male, is remarkable for the enormous development and comparative size of the face, which, meantime, does not follow the direction of the elevation of the cranium, but is set off at an angle of from 45° to 50°.

The cranium (sufficiently developed in other respects, *with regard to forehead*, and on the sides, although less so than in the chimpanzé,) is nevertheless provided with well-marked supra-orbitar, sagittal, and occipital crests, which increase considerably the extent of the temporal fossæ. The squamous bone ascends high, and the sphenoidal wings touch the angle of the parietal bones.

The jaws are also at least as much elongated as in the descending scale of apes, and they are generally of great strength. In the upper jaw (face generally) the orbits are oval, oblique, their external apertures are near each other, and altogether anterior; the superciliary crests are more elevated than thick, but well-marked, especially in the male sex; the nasal bones are extremely small, scaleoid; united mesially at a very early period, and much turned-up; the cheek bones large and projecting, as likewise the terminal and incisive portion of the jaw; the palatine arch is also proportionally much elongated, although the true palatine bones are very short; on the contrary, the premaxillary do not ascend beyond the external margin of the nasal bones, and their palatine plates unite at a very early period; the anterior incisive foramen does not exist at any age.

The lower jaw, although necessarily proportioned in length to that of the upper, has its two branches placed at right angles to each other, and the symphysis of the chin very slightly inclined backwards; the glenoid surface is large and almost convex, bounded posteriorly by a powerful glenoid process; the anterior aperture of the inferior dentar canal is still near the inferior margin, as in the other apes.

The spinal column has (in consequence of the want of tail) the short and truncated general form, as in the gibbons, and the same arrangement with the gibbons with regard to the spinous processes.

The total number of vertebræ is thirty, viz., seven cervical, twelve dorsal, four lumbar, three sacral, and four coccygeal, with a proportion and arrangement nearly similar to that of the gibbons, only the development much greater.*

The cervical vertebræ form a neck, whose length, as compared with that of the trunk, is as 1 to 3,—a little less than that of the loins; the essential difference with regard to the vertebræ between the orangs and the other apes being in the great elevation of the spinous processes, at least in the five last, a peculiarity, without doubt, in relation with the size of the head and the length of the jaws, but which already shows itself in the young animal.

The number of dorsal vertebræ is the same as in man, but their bodies are so large that the thorax is truly enormous; the last rib nearly touches the iliac bones.

The lumbar region is, on the contrary, extremely short, although the four vertebræ which form it have their bodies large and thick, with the spinous processes looking backwards and downwards, as do indeed all those of the spine; the last, and smallest, is interiliac, and its transverse processes even articulate with the iliac bones, as if it formed a part of the sacrum; its spinous process also follows the same direction as the middle sacral crest.

The sacrum is composed of three large, flat vertebræ; all the three articulate with the iliac bones.

The coccyx is composed, then, of four vertebræ, two subsacral (united to the sacral), and two coccygeal; these vertebræ are all well-developed and flat, and unite at an early period, and the first with the sacrum, as we have already remarked.

The sternum is still larger and shorter than in the gibbons, and, as the ribs are also larger, as well their osseous part as their cartilages of prolongation, there results an extensive hypochondria. The sternum, in other respects, presents the peculiarity of being originally formed of a double series of sternebræ, right and left.

The clavicle is still proportionally larger than in the gibbons, which carries the shoulder very much outwards and forwards; it is, in other respects, nearly straight, very large, and exceeding the scapula in length, which is, nevertheless, large and oblique, as in the gibbons.

The humerus is remarkable for its great

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* I am confident in having found only four lumbar, three sacral, and four coccygeal vertebræ in a young specimen in a good state of preservation; but in the adult individual skeleton, the first coccygeal being united with the sacrum, thus produces, as it were, four sacral and three coccygeal.

strength and length, equalling that of the trunk, not including the neck. All the crests and tuberosities are large; its head is quite remarkable for size, its diameter exceeding that of the caput femoris.

The forearm is, in the meantime, still a little longer than the humerus, and its two bones have maintained a proportional strength, the reverse of the arrangement in the gibbons.

The hand is, perhaps, still longer than in the gibbons, since it equals in length two-thirds of the forearm, whilst, on the other hand, the thumb is proportionally much smaller, being not more than a third the length of the middle finger.

The carpus is composed of only eight bones, as in man.

The proximal phalanges are remarkable for their curve and strength, and display an arrangement the best suited for seizing the branches of trees, still more, perhaps, than in the gibbons. The decrease of the four external fingers is, as in the gibbons, very rapid.

The posterior limbs are, perhaps, a little more disproportioned, in length at least, than in the gibbons; that is, shorter, compared with the anterior; but they are also stronger, and better fitted for the erect position, or that of man.

The pelvis is, in truth, still larger, more expanded than in the gibbon, but equally concave externally, and flat internally, which is the reverse of the human structure.

The femur, massive and short, slightly flattened, nearly straight, presents, as a generic character, the complete absence of a fossette for the insertion of the round ligament (see Note 5, by Dr. Knox, p. 229); the digital cavity is not deep; the linea aspera but little developed; the inferior articular surface is very large, the two condyles unequal; the internal is stronger, and descends lower, separated posteriorly by a considerable fossa; anteriorly by a *rotulean groove* large and superficial.

The tibia and fibula, one-sixth part shorter than the femur, are also very robust, separated from each other; their proximal and distal extremities much dilated, especially the distal end; very much grooved for the passage of tendons, forming an extensive mortice, particularly towards the opening, so as but loosely to embrace the astragalus.

The foot, evidently longer than the leg, is still formed in every respect for prehension, more, perhaps, for seizing or grasping.

The astragalus is large and flat, the pulley being superficial, and its head directed still more obliquely inwards than in the gibbons.

The calcaneum has its posterior tuberosity slightly prominent, and dilated, like the iron of a hammer, excavated, as it were, inferiorly, and thus rests by its extremity upon a horizontal plane; it has, nevertheless, a general direction, oblique outwards, so that it exceeds the external margin of the foot altogether differently than in man.

The toes have nearly the same proportions as the fingers, though generally a little shorter, with the exception of the great toe, which is, on the contrary, very strong and long, altogether proportionally much less than in the chimpanzé.

Anatomists are not agreed with respect to the composition of the thumb, some asserting that it is formed of the proximal phalanx, the distal or ungueal, as well as the nail itself, being wanting; whilst others assert, that it has both its phalanges and its nail as usual. The examination of our adult skeleton and other four young ones compels me to adopt the latter opinion, and notwithstanding that Camper speaks of four or five specimens which want the distal or nail bearing phalanx and also the nail.

Lastly, in the ape, which in respect to the relation which we are now more immediately considering, is evidently at the head of the group, that is, in the chimpanzé, the proportions of the limbs and trunk approach again, somewhat more, those which exist in the human species; thus the limbs are no longer a kind of hooks, and the animal walks a little oftener and a little better in a vertical position, than other monkeys.

With the exception of the head, (Figs. 24, 25, 26, 27,) I have seen the skeleton of the chimpanzé only in young specimens; but I can supply the defect by the arrangement which I have adopted, in availing myself of the description and figures which Mr. Owen has given, from an adult skeleton, the only one of which I am aware, and which is now in the museum of Mr. Walker, in London.

The chimpanzé's skeleton as a whole bears unquestionably a stronger resemblance to that of man, when we consider the proportion of the limbs and trunk, and those of the orang-outang; but that resemblance cannot be pushed beyond this point.

The form of the head as a whole, as well as the proportion which it bears to the trunk, is very similar to that of the orang-outang, except that it is much less pyramidal.

The transverse diameter of the great occipital foramen is to that of the head taken over all, above the external auditory canal, as 23 millim. to 96, or nearly as 1 to 4; the cranium is perhaps less enlarged, the temporal fossæ less extensive, so that in fact there are neither sagittal nor occipital crests; but, on the other hand, the orbits are surrounded superiorly by thick and large superciliary ridges, which, however, does not prevent the forehead from expanding above it.

The occipital condyles are perhaps a little more advanced forward (more under the cranium) than in the orang-outang, the longitudinal diameter of the cranium being 190 millim. (7½ inches), the posterior margin of the palate 80 (3 inches), that of the condyles 155 (5¾ inches); there remains 35 millim. (2 inches) of the *basis cranii* posterior to the occipito-vertebral articulation.

The face projects considerably, the cheeks are broad, and the jaws thick and robust, in all their parts.

The upper jaw, attached to the cranium by the zygomatic arches, perhaps a little larger than in the orang-outang, gives the orbits an oblique quadrilateral form, slightly as in man, and in a plane altogether anterior; the orbitar margins thick, and separated by a very considerable space, and by the nasal bones more developed perhaps, and longer distinct than in the orang-outang. The maxillary bones are moderately elongated, perforated by numerous suborbitar foramina; but the premaxillary bones, which present the peculiarity of scarcely touching the nasal bones, and of uniting at a very early period with the maxillary, as in man, are evidently

Fig. 24.

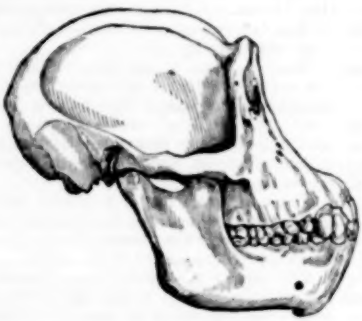


Fig. 25.

Fig. 26.

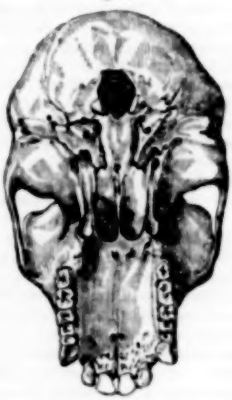


Fig. 27.

Fig. 24. Head viewed in profile.
25. —— viewed from above.
26. —— viewed from below.
27. —— of a young specimen viewed in profile.

Chimpanzé troglodyte. p. troglodytes.
Troglodyte chimpanzé, troglodytes niger, Desm.
Simia troglodytes, Linn.
Jocko. pongo, Buff.
Habitat Africa, particularly on the Angola and Congo.

Engravings from a fine cranium of the adult animal, in the Museum at Paris; the young fig. 27 is in the same.

elongated anteriorly or in the same direction with the maxillary; thus the nasal apertures are pushed backwards; they are, besides, large, and subtriangular.

The palatine arch is large, with parallel edges, and presents the incisive foramina, rounded, very distinct although small.

The lower jaw is nearly as strong as in the orang-outang; but the ascending branch is, perhaps, proportionally not so high, forming an angle more obtuse, or less a right angle; the foramen menti is smaller, and in this, slightly approaches the human structure.

The os hyoides does not appear to differ from that of the orang-outang, as in the course of age it dilates a little, so as to assume the triangular form, excavated posteriorly, (see Note 6, by Dr. Knox, p. 220.) The styloid horns are also proportionally more developed than in man.

The spinal column of the chimpanzé has evidently a strong resemblance to that of the orang-outang, in its general form; the total number of vertebræ is thirty-three; viz., seven cervical, thirteen dorsal, four lumbar, four sacral, and five coccygeal. There are, then, one dorsal, one sacral, one coccygeal more than in the orang-outang.

The proportion and general form of the vertebræ are nearly that of the orang-outang, and approach even still more closely the human; the spinous processes are, equally, all inclined in the same direction, but those of the five last cervical are much shorter than in the orang; they are in other respects simple, and not bifurcated as in man.

The sacrum is longer and narrower than in the orang-outang, and the four vertebræ are all articular, but the last very slightly so, at least in our young specimen.

The coccyx is regular, triangular, curved inwards, and formed of five vertebræ, the last in a cartilaginous state.

The sternum is equally large and short, but it is evidently straighter than in the orang-outang, and its form is more human, its sternebræ being simple, and placed end to end, we may admit that there are eight sternebræ, because there are seven pair of sternal ribs; but we have only been able to perceive six sternebræ.

The ribs are remarkable for their length and strength: seven sternal, six asternal. The asternal, more especially the last, as well as their cartilages, are very long, which gives the thorax ample dimensions in all the measurements.

The transverse diameter of the thorax is still greater than the antero-posterior, although less so than in the human subject.

We have already remarked, that the proportion of the thoracic and abdominal limbs to each other is much more human than in the orang-outang; but still the thoracic are a little larger than the pelvian, the reverse of what exist in the human race.

The scapula is larger, but proportionally still narrower than in the orang-outang, more oblique, and consequently less human; its spine is also more mesial, and its acromion process longer and more dilated, broad, and depressed.

The clavicle is long and powerful, though less so than in the orang-outang; and it is especially less straight, rounder, and its double curve is more marked, which brings it nearer to that of man.

The humerus is in a similar state; but it is longer and more powerful; the ridges and twists peculiar to the bone in man are more developed; the head, however, is proportionally less bulky than in the orang-outang, so that its resemblance to that of man is truly very striking.

The proportion of the bones of the forearm are also similar to the human; they are, however, a little longer than the arm (humerus). The two bones which constitute this part of the limb or forearm are besides more arched or curved, which produces a greater inter-osseal space.

The hand preserves, in a still greater degree than the bones of the forearm, more elongated proportions than in man, although much less so than in the orang-outang.

The carpus is, nevertheless, composed of the same number of bones, and follows the same arrangement as in man, a peculiarity of which I am perfectly certain, and which belongs exclusively to this ape, and which makes it approach still nearer the human type; only the trapezium and trapezoides are much less, especially the trapezium, whilst the pisiform bone is much larger, and formed as in the other apes.

The metacarpal bones are remarkable for ther length.

The fingers have proportions quite specific, being neither those of man nor of the orang-outang.

The thumb is very short, scarcely equalling the second metacarpal bone, and of the four fingers the first two are nearly equal, and the two last decrease very rapidly, the fifth being particularly short, and even proportionally more delicate.

The phalanges are still sufficiently long and curved, a form suited for grasping the branches of trees.

The posterior limbs have, as has been remarked, proportions more nearly human than in any of the simiæ, but are still evidently much smaller than the anterior, indicative of an inferior organisation, as a biped.

The osinnominatum (half girdle) is in general larger and narrower than in the orang-outang, a form which the more expanded but shorter iliac bones produces; the iliac crest is large, the external iliac fossa is subconcave, the internal flat, nearly as in the orang-outang.

The pubis has also nearly the same form; the ischiatic tuberosity is, however, still thicker, and more bent.

The femur, nearly equalling the humerus in length, is on the whole almost human, although proportionally more massive; the head is provided with a fossette or depression for the insertion of the round ligament; its neck is a little more oblique; its body slightly curved; and its distal articular extremity very large.

The leg, a little shorter than the thigh, has its two bones stronger, more rough, and a little straighter than in man. The fibula is especially stronger at the distal extremity; its tarsal articulation, particularly, being larger, with the malleolus less prominent, or projecting.

The relative proportion of the three divisions of the foot (tarsus, metatarsus and toes), corresponds much more to the human type than in the orang and other apes.

The astragalus presents a large and superficial pulley.

The calcaneum rather small in all its dimensions, but especially more compressed than in man, is more prolonged posteriorly than even in the orang-outang.

The scaphoid extensively excavated for the head of the astragalus, and with its internal tuberosity very oblique, presents its three articular facets, nearly equal in size.

The first cuneiform, large and flattened, supports a larger and more massive toe than in all the species of the apes, which establishes in this respect the nearest approach to man.

The foot in other respects is still longer and narrower than in man, and the metatarsal bones, like the phalangeal, are more arched; less so, however, than in the orang-outang.

In other respects, the proportion of the toes to each other is precisely similar to the hand, with the exception of the great toe, whose length and strength makes it approach much nearer that of man, than in any other species of the apes.

Thus the skeleton of the apes placed above that of the callitriche, has shown to us the gradation or ascending scale, which the other parts of the organism display. We shall now proceed to trace the descending scale from the same callitriche to the last *chéropitheque* or baboon; only the differential marks will be, distinctly, less evident, more gradual as it were than in the ascending scale.

NOTES BY DR. KNOX.

At page 209 the term *chanfrein* occurs; it is applied to the remarkably flattened surface between the eyes of the horse, extending also posteriorly, as far back as the ears, and anteriorly to the root of the nose. The veterinarian in Scotland applies the term *face* to the whole anterior aspect of the horse's head; they call that part *forehead* which extends from between the ears to a line drawn immediately under the eyes. It is true that it is the frontal bones which chiefly form this surface; but, on examining the bones of the cranium, it will be found that the parietal, and particularly the broad root of the nasal bones, form a great part of the so-called *chanfrein*, or forehead of the British veterinarians. In the ox, also, we shall find that the same vagueness of expression is used, and this is unfortunate, as the head of the horse differs greatly with regard to the bones which form the chanfrein in him and that of the ox. We have even seen some men whose villanously low forehead and huge proboscis, or nose, rendered the French term peculiarly applicable, the anterior aspect of the face bringing into view the whole upper convex surface of the properly-formed human head, and giving an appearance, in a flattered engraving, of the individuals, as if there really existed a sufficiently well-developed forehead, when, in reality, no such existed, and which the profile view proved to demonstration. We shall venture to predict, that if ever these crania come to figure in a museum, they might be passed off as pure specimens of the American chinock; although, certainly, no bag of sand had ever been allowed to exercise its depressing effects. What is most singular, the individuals we allude to are particularly vain of their forehead; and the chinock tribe consider the depressed forehead so great a beauty, that the wearing of a bag of sand is a privilege only permitted to the aristocracy.—Note 1, p. 209.

It is right to call the reader's attention strongly to the discrepancy existing between M. De Blainville's text and plate in respect to the gibbon. In the explanation of the plates, M. De Blainville calls the animal the gibbon cendré, which every naturalist must know to be synonymous with the wou-wou of Camper; the leusciscus pithecus of Geoff. and Shreb.; and the cendré (cinerimi) Cuv. Regn. Animal.; and under this name of gibbon cendré, M. De Blainville refers to the plate. Now, on the plate, our distinguished author calls the figure the gibbon varie (p. variegatus). There is then either some oversight here, or our author is disposed to deny the difference in species between the p. variegatus and p. leuciscus of Geoff. We shall, no doubt, have an explanation of M. De Blainville's views on this point when this note meets the eye of our distinguished author.—Note 2, p. 211.

The human crania in our own museum present great variety in the articulation or non-articulation of the sphenoid with the parietal. In 20 crania belonging to the European, or white races of man, I find the extent of articulation of these two bones vary from one inch to half a line. In an idiot, the bones just touch each other. In five Hindoo crania they articulate quite as much

as the European. In the Hottentot, they just touch. In the Caffre, extensively. In the negro, moderate, from a line and a half to six lines. In the Chinock (American), a line and a half. In the native of Van Dieman's Land, the arrangement was peculiar; in one I find a square-shaped bone interposed on each side, nearly of an inch in extent; and in another specimen they did not in the slightest degree articulate, the temporal uniting with the frontal, and thus separating, completely, the sphenoid from the parietal.—Note 3, p. 212.

By seven sacral, our author unquestionably means that seven vertebræ, that is, *the three sacral, properly so-called, and four coccygeal*, have united into one mass, and which, indeed, the mere human anatomist would call the sacrum. Our readers will find, at p. 191, vol. i., 1839-40, the young human sacrum viewed anteriorly, where the letters *c d e* and *f*, mark costal appendages developed upon four vertebræ only, and which, in the adult, would no doubt have formed the sacro-iliac articular surface. Thus, scientifically, the human sacrum is composed of only four vertebræ; but another vertebra without exception, so far as we have been able to observe in our own museum, and which M. De Blainville calls subsacral, unites at an early period to the four, and thus constitutes the five so uniformly composing the human sacrum, and giving rise to the four pair of anterior and posterior sacral foramina. Instead of three coccygeal, our author should, therefore, have said *seven* coccygeal, the first four having united with the sacral.—Note 4, p. 212.

Dr. Clark, of Cambridge, mentioned to my brother, Mr. F. Knox, that he had seen two instances of the absence of the round ligament in man. It is equally curious that I have never observed this myself, although I feel assured of having examined, anatomically, more than a thousand ilio-femoral joints. But we shall find, by and by, that the absence of the ligament is by no means uncommon in the range of the animal kingdom, although we, at the same time, feel justified in stating, that more carefully conducted and more numerous dissections of the orang-outang are wanting, to completely set at rest the uniform absence of the so-named *round ligament* in the orang-outang.—Note 5, p. 216.

We have now before us twelve specimens of the hyoid apparatus from the human subject, of which, certainly, not two resemble strictly each other. The differences, we admit, are slight, but still they exist in many points. The *body*, in all of them, presents a very considerable excavation posteriorly; the styloid horns vary from a line and a half to four and a half lines in length; the laryngeal horns are, in some, much larger than in others; they are also flattened, rounded, and twisted in all directions.—Note 6, p. 218.

LECTURES

ON THE

FUNCTION AND DISEASES OF THE WOMB,

Delivered at his Class Room,

Bartholomew-Close, St. Bartholomew's Hospital.

BY CHARLES WALLER, M.D.

LECTURE XI.

Polypus of the Womb: polypus not confined to the uterus; situations of polypus uteri various; texture; colour; generally distinct growths; vascular; insensible; difference in size; may be combined with other diseases; no assignable cause for its production; its growth slow; sometimes spontaneously cured. Symptoms of Polypus: leucorrhœa; hæmorrhage; fœtid discharge; bladder and rectum sometimes affected; dyspeptic symptoms; Sir Charles Clarke's case; examination per vaginam; diagnosis easy; tumour resembling polypus; when small polypus does not obstruct conception, prognosis favourable. Treatment: various plans proposed for its removal; ligature; description of instrument required; mode of using it; avoid the uterus; different periods of time elapse before ligature comes away. After-treatment: polypus of vagina. Moles: various substances called mole; Vogel's definition; two distinct forms of moles; symptoms; treatment. Calculus of womb: symptoms; treatment; worms.

POLYPUS OF THE WOMB.

TUMOURS of a polypoid kind, you are aware, Gentlemen, are not confined to the uterus, they are frequently seen to grow from other parts of the body; *uterine polypus*, the disease now under consideration, is not common in very early life, although very young girls have been known to be the subjects of this affection. From different parts of the uterus this growth arises, viz., from the fundus at its upper part, from the cervix just within the mouth, or it may proceed from the lips of the womb exterior to its cavity. The texture of polypus varies; you sometimes meet with them as hard as cartilage, at others they are so soft and lacerable that they are easily broken down by the finger, and in this manner in a few cases a perfect cure has been effected. Some polypi, again, are of a white colour, whilst others are dark-brown; they are usually attached by a single peduncle, which may be either large and broad, or small and narrow, or they may adhere to the womb by several roots. They are generally distinct substances growing from the lining membrane of the womb; at other times, according to Denman, they are partly composed of the substance of the organ itself, "which shoots out so as to be intermingled

with that of the polypus, or to form a covering over it." A number of little vessels, principally veins, may be observed ramifying on the membrane covering the surface of the tumour, and from these considerable hæmorrhage sometimes takes place. No nerves have been discovered entering into its composition, and hence insensibility is its peculiar characteristic. The size of this growth varies greatly; it is at first so small that it is impossible to feel it, gradually increasing, if no remedial means be had recourse to, until it acquires the size of a child's head; these large polypi are very appropriately designated by Dr. Blundell by the term "scandalous," as they cannot by possibility occur without gross neglect on the part of the medical attendant. In most cases there is no other uterine disease present, but we should not forget that there may be a complication with some other disease, such as scirrhus, which is in its nature fatal; where there is no such combination, there may be prolapsus or inversion.

Causes.—Polypus has been supposed, by some, to be the result of some accidental injury inflicted upon the womb, either during labour, or otherwise. This opinion is not, however, well founded; it appears to be a spontaneous disease, and often occurs in women previously healthy, and sometimes in unmarried females. The growth of the tumour is very generally slow, many months usually elapsing before the attention of the practitioner is directed towards it, and indeed women may die of other diseases without any suspicion having been entertained of the existence of polypus, provided it be of small size. Cases are recorded where the polypus has fallen off spontaneously, apparently from pressure on its peduncle.

The *symptoms* attendant on this form of uterine affection are the following: in the first place there is a greater or less degree of mucous discharge, often, although at irregular intervals, mixed with blood; this latter symptom is occasionally profuse, and this is a fortunate circumstance for the female, as it will lead to a more careful investigation of the true nature of the disease. Whilst the discharge is trifling, the patient is probably supposed to be suffering under profuse menstruation, from which, however, it is to be distinguished by the irregularity of its flow. When the blood is retained for a time within the cavity of the womb or the vagina, decomposition occurs, and this will render the mucous discharge dark in colour, and will also communicate to it a very offensive smell. Do not imagine from this circumstance that the disease is malignant; the entire absence of pain, or at least its comparatively trifling degree, will soon convince you that such is not the case. Sir Charles Clarke observes that coagula of blood are occasionally voided of a ring-like form, produced in consequence of a certain quantity of blood adhering to the surface of the tumour, and there coagulating; it at length slides off, and comes away. I have never noticed in my own practice these ring-like coagula. A sense of weight, uneasiness, and bearing down, are early experienced; all these symptoms of course increasing as the tumour enlarges. In very large polypi the neighbouring parts, viz., the bladder and rectum, suffer from pressure; the uterus generally descends, and from the stretched state of the broad ligaments, pain will be experienced in the groins.

As in every other disease of the uterus, so here, the stomach intimately sympathizes, various symptoms characterising dyspepsia manifest themselves; these symptoms differ according to the different degrees of irritability of the individual. For example, you may have simply want of appetite, or there may be nausea or vomiting. When these tumours form at the fundus uteri, they gradually increase in size, the womb enlarging and its mouth opening until it passes through and projects into the vagina. If nothing be done for its relief the enlargement goes on, and the tumour will at length be *seen*, lying between the thighs of the female, and then it belongs to the "scandalous" kind. Sir Charles Clarke relates a case of polypus, which happened to an unmarried female, and which completely filled the cavity of the pelvis; this was of the hard kind; and after its peduncle was cut through, could only be removed by means of a pair of midwifery forceps.

Before the tumour has passed into the vagina, or at any rate before it occupies the lower part of the uterus, a vaginal examination will not detect it; but when it is situated lower we ought not to mistake it. Recollect, it is a firm, round, smooth, and insensible tumour, perfectly unattached to the parietes of the vagina; the finger can therefore be passed around it, and from the insensibility of the mass, pressure, or even a scratch with the finger-nail, gives no pain; but although the substance itself is insensible, yet it grows from a very sensible part, viz., the uterus, and therefore unless the examination be conducted with gentleness, pain will be experienced; and this circumstance might deceive an inexperienced practitioner. Where the body of the polypus is small, we are sometimes enabled to pass up the finger beyond it, and distinctly feel the stalk or peduncle passing into the os uteri, but not being attached to it. Where the stalk is fixed to the cervix uteri, the finger can only be passed on one side, the attachment preventing it from being carried completely around it; to use the language of Dr. Gooch, in one case the stem is completely surrounded by the os uteri, in the other it is only semicircled by it. Where, on the contrary, the tumour grows from the exterior of the uterus, from the outside of one of the

lips of the os uteri, the whole of its attachment can be distinctly felt to be *without* the uterus.

The *diagnosis* in polypus is unattended with difficulty, indeed it is scarcely possible to confound it with any other affection, with *probably* the exception of chronic inversion, and the cauliflower excrescence. I speak doubtingly, because the mistake is not very likely to occur; from the former it is at once distinguished by its characteristic insensibility, and by an attentive inquiry into the history of the case in its earlier stages: it differs from the latter by not being accompanied by any watery discharge, by its being a single tumour attached to a stem, which in most cases passes *through* the os uteri, whereas the cauliflower excrescence is composed of an indefinite number of lobules of various sizes, connected to the *outside* of the mouth of the womb, often extending over a considerable part of its surface.

It will be right to mention one variety of disease, which from the symptoms it produces bears so near a resemblance to polypus that it might, without very great care, be mistaken for it. This tumour is insensible, grows from the interior of the uterus, and passes through the os uteri; it is therefore encircled by it, but there is no distinct peduncle or stalk. Its surface also differs from polypus; instead of being smooth and rounded, it appears rough and irregular. Hæmorrhage and other symptoms present in polypus are observed here. This form of complaint is fatal, and arises from a diseased condition of the organ generally, which is often found considerably enlarged; relief has in some few instances been obtained by removing portions from time to time by means of a ligature; the effect is, however, but temporary, as the tumour is reproduced in a short period of time, so that sooner or later the patient sinks under its influence. Whenever, therefore, an operation is decided upon, the mind of the female and her friends should be prepared for such a result.

The existence of polypus, if it be of small size, does not interfere with the process of conception or gestation; in some cases the contractions of the uterus, after the expulsion of the child and placenta, have separated the mass, and thus effected a perfect cure.

Prognosis.—This in true polypus may always be favourable, provided an operation be performed in due time. Many unfortunate females have nevertheless fallen a sacrifice to the inattention or ignorance of the medical man, who, being content with treating symptoms only, without ascertaining the cause which has produced them, has considered the case to be one of common menorrhagia, and has gone on prescribing his astringents, until from the frequent repetition of the discharge, his patient's strength has been exhausted, and her sufferings terminated by death. Such an occurrence, however, Gentlemen, is most disgraceful; for by attention to the symptoms, and careful vaginal examinations, the true character of the affection is without difficulty ascertained, and by a very simple, bloodless, nay, even painless operation, the disease is removed and *permanently* eradicated, there being no disposition in the uterus again to renew it. I well recollect having a patient sent me from the country, some few years ago, who was said to be labouring under a malignant and consequently fatal uterine affection. The case was decided as hopeless; but it was thought advisable that she should have the opinion of a London obstetric before she died. The symptoms under which she laboured were those just described to you; by an examination per vaginam a small polypus was discovered protruding through the os uteri; a ligature was applied around it, and in the short space of one week, instead of this lady returning to her habitation in the country to die, I had the satisfaction to pronounce her perfectly cured.

Treatment.—Removal of the morbid growths is the only plan which can be adopted, but various means to effect this have been recommended, viz., excision, cauterisation, tearing it away, and the ligature; the latter method is, however, invariably had recourse to in the present day, and, therefore, it will be needless to take up your time in describing the others, except by simply stating that small polypi of the softer kind (the substance of which has been such as not to bear the pressure of the ligature) have occasionally been removed by the thumb and finger, an interesting example of which you will find recorded in Dr. Gooch's work on the "Diseases of Women."

Removal of the Polypus by Ligature.—The best instrument you can employ for the cure of polypus, is the double canula of Levret, as improved by the late Dr. Gooch; this instrument, you perceive, consists essentially, of two straight silver tubes, about eight inches in length. There is a third piece composed of a double tube at its lower, and two rings at its upper extremity, and these joined together by a long thin silver rod; these tubes and rings are just large enough to admit the two other long tubes already shown you, and thus to form the whole into one piece. Different kinds of ligature have been recommended; the best, in my judgment, is the gold twist, easily procured at any gold-lace warehouse. The advantage of this material is, that it possesses firmness, and also a sufficient degree of flexibility to allow of its application without difficulty. The aim of the operator is to pass this ligature around the stem of the polypus, and, therefore, in the absence of any particularly urgent symptom, it is better to wait, and make no attempt for this purpose until the finger can be passed beyond the body of

the tumour, and the peduncle easily reached. There will, in this case, be comparatively little danger of including the os uteri in the ligature, as it will then be considerably dilated; if, however, threatening symptoms should make their appearance, you would be justified in making an effort for its removal, even although, on an examination, the polypus might be felt to be wholly contained within the uterine cavity. Before commencing the operation the instrument is to be prepared in the following way:—Pass one end of the ligature up one of the tubes and down the other, so that the centre of the ligature may extend from the upper part of one tube to the upper part of the other, and thus the loop is easily formed. I usually thread the third piece also, by carrying the ligature through the corresponding rings and tubes, taking care that the gold twist is of sufficient length to allow of the tubes being freely moved about prior to their junction. The female being placed on her left side in the usual obstetric position, the two canulæ thus armed with the ligature are to be carried up the vagina as high as that portion of the stem of the polypus which you are about to tie; one of the tubes is to remain in that position whilst the other is to be removed, and carefully carried around the polypus until it again meets with the other. By this manipulation it is quite clear that the peduncle will be completely encircled by a loop of the ligature; the third part of the instrument is then to be slipped over the long tubes in the way now shown to you, and the ends of the ligature are to be tightened and carried through the rings or shoulders situated at the lower extremity, where they are to be firmly secured.

It is a point of immense importance, in the application of a ligature, to avoid including any portion of the uterus within its grasp. Where there is inversion this accident might occur; and, indeed, it did happen to no less celebrated a practitioner than Dr. W. Hunter. Where there is no inversion, if the stem be large, and especially if it grow from the mouth of the womb, this part (the os uteri) might be tied, and although it perhaps does not of necessity follow that the woman would die, yet it is certain that a great aggravation of pain would be the result. The polypus, I have said, is insensible; and it follows, therefore, if nothing but this morbid growth be encircled by the ligature, there will be no pain; whereas, if a part of the womb be included, great pain will be immediately felt. The presence or absence of pain, then, will enable you at once to determine whether the ligature be properly applied or not, and it must be slackened or tightened as circumstances may require, or even, in some cases, altogether removed, and reapplied. Where the stem is attached to the fundus uteri, great difficulty would be experienced if it were necessary to apply the ligature around its upper part: fortunately no such necessity exists; it has been found by experience, that if the body of the polypus be passed, and the *lower* part of the stem encircled by the loop of the ligature, the cure will be perfect, as the whole of the stem will moulder away when the body has been removed.

The time occupied in the performance of this operation varies according to the size of the stem which has to be cut through; where this is very small, a few days only elapse before the cure is completed; whilst in others, ten or fifteen days may be required: again, in some few instances, the first application of the ligature has immediately separated it. The instrument must be left in the vagina, the female kept in bed, and strictly cautioned to avoid unnecessary movement of her body; and when she does alter her position, she should be directed to steady the instrument by holding it in her hand, lest some of the soft parts should be injured. No medicine will be required, unless there be a feverish excitement of the vascular system, when a moderately antiphlogistic plan should be had recourse to.

Before the use of the ligature, the rectum and bladder should be thoroughly emptied, the former by means of castor oil, or a common enema. The advantages of this plan are obvious, as the female will be enabled to lie perfectly quiet for some time afterwards. Should there be great restlessness, or inability to sleep, an opiate must be administered; and for this purpose the acetate of morphia is well adapted. The ligature is to be tightened daily, until, after a longer or shorter period, the stem is cut through. The substance of the polypus, in many cases, will be found to be, in a great measure, dwindled away. Observe the preparation now exhibited; it appears a mere membranous bag, whereas, before the application of the ligature, it was firm and hard, about the size and shape of a small pear; in the larger and more solid polypi the shape is retained after the peduncle has been cut through; their removal from the vagina is easily accomplished by the hand; or if the mass be of large size, the midwifery forceps may be required, as in Sir Charles Clarke's case. During the process of cure there is often a very offensive discharge, disagreeable to the patient and her friends also; this may be regarded as a favourable symptom, as it indicates incipient putrefaction, and, therefore, affords a proof that the ligature has been sufficiently tightened. To relieve the fœtor, a weak solution of chloride of lime, or cold decoction of camomile, may be injected into the vagina twice or thrice daily; the patient should be assured that this is a matter of no importance, or rather, the reason of this appearance properly explained to her.

After the extraction of the polypus, the

vagina is to be well washed out with a solution of the sulphate of zinc, and this application continued so long as there are any discharges, whether of mucus or blood: these seldom remain for any length of time, and frequently there are none at all, so that your patient is speedily restored to her wonted health and strength; this, however, is not always the case, for where the disease has not been detected sufficiently early, the constitution suffers greatly from the long continuance of the drain, and a course of tonic medicine becomes necessary.

Polypus of the Vagina.—I stated, at the commencement of the lecture, that polypi were not confined to the uterus; and I would, in concluding the subject, mention, that you will sometimes find them adhering to the surface of the vaginal membranes, not entering the womb at all; they may be either hard or soft, and are, without difficulty, removed by ligature, the operation being similar to that performed in polypus of the uterus itself. If they are growing from the upper part of the vagina, be careful not to pass the ligature around the projecting os uteri.

MOLES IN THE UTERUS.

The term mole has been very injudiciously applied to denote various productions of the uterus. These products or excretions differ totally in their nature, and, therefore, ought not to be classed under the same name—for example, a blighted ovum, a polypous tumour, and a peculiar, flesh-like substance, occasionally formed in the womb, have all, in their turn, been designated as "moles." Vogel's definition is the following: "Mola—*massa carnea, vasculosa, ex utero excreta—ovum deforme.*" I restrict the term mole to those masses resembling flesh, which may form independently of sexual intercourse, and, therefore, are now and then observed in unmarried females, though this, I apprehend, is not a common occurrence. Of these moles there are two distinct, the first is nothing more than a mere coagulum of blood which has been retained for some time, perhaps for months, in the cavity of the uterus; it acquires a firm consistence in consequence of the removal of its more fluid parts, so that, when it is expelled, it seems composed principally of fibrine; a careful inspection will enable you to determine its nature. The second variety appears to be an unnatural product of the organ, varying in consistency, being hard in one case, soft in another; sometimes there is a single mass, at other times several; these have a vascular as well as cellular connection with the womb, and hence hæmorrhage is a frequent attendant on this variety of mole.

If the subject of this affection be married, pregnancy will be suspected, as there will be suppression of the catamenial flow, with enlargement of the abdomen, and, very probably, those sympathetic affections of the breasts and stomach which are the usual concomitants of utero-gestation. The womb being considerably enlarged, its parturient action becomes excited, and the woman experiences strong bearing-down pains, by means of which the mole or moles will be expelled.

Treatment.—Where no dangerous symptoms are present, the practitioner will do well not to interfere; but these cases are sometimes attended with fearful, not to say dangerous hæmorrhage; and here the usual means for its arrest should be promptly had recourse to, viz., the application of cold, the employment of friction, the internal exhibition of the ergot of rye, and, should these means fail, you may, as a last resource (provided the os uteri be well dilated), introduce your hand and bring away the entire mass. If you cannot effect this, in consequence of the rigidity of the parts, the temporary use of the plug might be of service.

Calculus in the Uterus.—Of this disease I have never myself seen an example. I mention it on the authority of Burns, who states that earthy concretions occasionally form in the womb.

The presence of calculus will, of necessity, be the cause of much uterine irritation, and be accompanied by the usual sympathetic affections. If allowed to remain, inflammation and ulceration are the consequences. Examination of the os uteri is the only method of detecting its presence, and this may be done either with the finger or a probe. If within, it should be removed, attending, at the same time, to any particular symptom that may arise. A case is related by Ganbius, where calculus was complicated with prolapsus uteri. After a length of time severe pains came on, and in an hour a large stone was expelled; next day a larger stone presented itself, but could not be brought away until the os uteri was dilated. From time to time, after this, small calculi were expelled; but, at length, the female recovered.

Worms in the Uterus.—In a few rare instances, after considerable irritation of the womb, combined with a fœtid discharge, worms have been discovered passing away with the secretion. The treatment consists in the injection of strong decoction of aloes, or of some bitter infusion, as wormwood, &c.

PROSECUTION UNDER THE ANATOMY ACT.—Government have sent directions to the local Crown Solicitor here to prosecute certain medical students at the South Infirmary, upon the alleged charge of having illegally practised anatomy. The indictment was sworn before Sir Anthony Perrier on Saturday, and the parties involved were held to bail to take their trial at the next assizes.—*Dublin Med. Press, from Cork South. Rep.*

LECTURES
AT THE
COLLEGE OF SURGEONS, 1840.

Lectures I. II. III. IV.

The subject of the lectures for the present year is the function of reproduction in the animal kingdom. Mr. Owen commenced the business of the course on Thursday, April 23rd, in his second lecture, by an interesting discourse upon spontaneous generation, to the views in favour of which subject he expressed himself decidedly opposed. In the third lecture, on Saturday, the 25th, he explained shortly the general characters of each class and division of animals, from the highest to the lowest, and pointed out the means of reproduction in infusory animalcules. According to Ehrenberg the infusoria are provided with an ovary, a testis of considerable size, and reservoirs which represent the vesiculæ seminales. In rotifera, the ovary is of large size, and opens by means of its oviduct into a cloaca, with which two simple cœcal ducts, the testes, communicate. Connected with the cloaca is a peculiar contractile organ, which receives the seminal fluid, and impels it into the oviduct.

The subject of the fourth lecture was the reproductive organs of the polypi, preceded by some observations on the modes of generation of the family of the sponges. Besides an incomplete fissiparous reproduction, sponges are provided with gemmules, which are produced in its cellular parenchyma, and are thence carried into the surrounding medium through the larger canals. The existence of cilia, as described by Grant, admits of considerable doubt, particularly since they have not been observed by Mr. Hogg, on the surface of the gemmules of the spongilla, or fresh-water sponge, although the latter gentleman employed a lens of much higher power than that used by previous investigators. Dr. Grant, in another instance, seems to have been induced, by analogy rather than by observation, to declare the presence of cilia upon the borders of the arms of polypiferous animals, in which no such organs can be detected. The gemmules of the sponge possess their locomotive power most probably through the agency of a contractile integument: their voluntary selection of a spot for future growth, and their avoidance of light as described by Grant, are very doubtful. Mr. Owen was disposed to agree with those physiologists, as Ehrenberg, Müller, Brown, &c., who considered, that if a line could be drawn between the animal and vegetable kingdoms, the sponges should be placed upon the vegetable side of that line. Locomotion could be no proof of animality; for it was well known that the sporules of some cryptogamic plants possessed very perfectly the power of motion.

Polypi are divisible into three groups;—of the first and lowest group the hydra viridis may be taken as the type. The usual mode of propagation of this polype is by means of buds, or gemmæ, which shoot out from the side of the parent, and when perfected become separate and distinct individuals. In some instances, a transverse fissiparous division had been seen to occur in them; but more recently Ehrenberg had discovered them to possess true generative organs, in two situations, viz., around the base of the arms, and near the foot of the animal. In the former place were cells, which contained locomotive cercariæ, which he considered to be true spermatozoa, and in the latter situation ova were developed. Some of the plant-like marine polypes, exposed to the destructive influence of the boisterous medium which they inhabit, are provided with a horny case, as a means of protection. The presence of this case prevents their complete fission, and the newly developed buds occupy an uniform position upon the branches of the animal, like leaves upon a tree. Besides this mode of propagation, cup-shaped bodies are produced in certain situations, as in the axillæ of the branches, in which ova are developed, which, upon arriving at perfection, are enabled to escape into the surrounding medium, by the falling off of the operculum of the capsule. These ova or gemmules, of an oval or pyriform shape, are covered for about three-fourths of their extent with vibratile cilia, by which they are enabled to move from place to place; and, finally, they attach themselves by the unciliated portion of their surface.

In the second group of polypi, the anthozoa, transverse fissiparous generation occurs sometimes, but very rarely. In the actinia, between the stomach and the integument, are oblong cells, in which ova, possessing all the essential constituents of those of higher animals, the chorion, the vitellus, the germinal membrane, and germinal vesicle, are developed; lower down are situated spiral tubes which contain spermatozoa, and provide the impregnating fluids. Besides these two methods of propagation, they also increase by the development of buds,—gemmation.

The third group of polypi, the bryozoa, or cilio-brachiata, possess a high degree of organisation, a complicated intestinal canal, an anal opening, and cilia disposed in rows upon the arms. Reproduction by gemma-

tion occurs throughout the entire group. In the flustræ, as well as in several other genera, the ova are quite distinct, and Dr. Arthur Farre has observed spermazootic cercariæ in almost every part of the interior of the body. Therefore gemmation, and the existence of male and female organs of generation, are shown to exist throughout the whole of the polypi, and in some few, fissiparous reproduction also occurs.

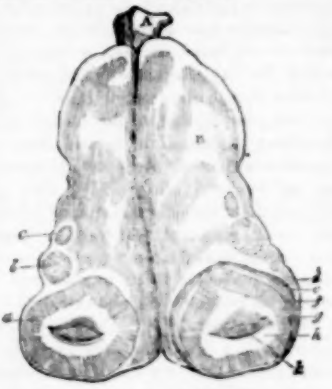
CONTRIBUTIONS
TO THE
HISTORY OF THE CORPUS LUTEUM,
HUMAN AND COMPARATIVE,
BY
ROBERT KNOX, M.D.,
Corresponding Member of the French Academy of Medicine, Feb. 1840.

Part I.

The following brief history of facts and opinions respecting the *corpus luteum*, and the circumstances attending its origin, development or growth and decay, was commenced some years ago on the occasion of my receiving from an esteemed friend the human uterus and its appendages, which seemed to me to throw considerable light on the obscure history of this interesting body. Shortly after I had examined the uterus in question a very valuable work touching on this matter appeared from the pen of Dr. Montgomery, and this was soon afterwards followed by a "Memoir" on the structure of the corpus luteum, to which is attached the name of one of the most accurate and talented observers of the present day.* As I found it impossible to arrange the facts I had observed, so as to suit the theoretical views supported by these gentlemen, I have thought it might be agreeable to the readers of The Lancet, and to physiologists generally, to publish in its columns the observations themselves, nearly as they stand in my note-book.

I much fear that all the labour desirable may not have been bestowed on the following memoir, and that contradictory opinions are supported, which, however, on being pointed out, I shall be the first to acknowledge; but I foresee that unless availing myself of the few days of leisure afforded by the Christmas holidays, the publication of these notes may be put off indefinitely.

In the month of March, 1835, the gravid uterus of a most respectable woman, who died suddenly of perforation of the stomach, was put into my hands. Mrs. B.——, the lady in question, was about 32 years of age, and at the period of her death had been married only four months, and, therefore, it is to be presumed that the fœtus found in the uterus after death was a fœtus between the third and fourth month; the size of the fœtus is itself a satisfactory evidence in support of this fact. The dissection of the uterus was made with great care; it was perfectly healthy, and evidently performing all its functions in the most satisfactory manner; the parts were preserved for the museum with the fœtus enclosed within the amnios, otherwise we should have here added its measurement, weight, &c.



Description of Fig. 1.

Right ovarium section along the free margin of the organ, dividing nearly to its base or fixed margin.

A *proper* ligament of the ovary.

B cut surface of the ovary.

a section of a *corpus luteum* at between the third and fourth month of pregnancy.

b section of another body resembling *a*, in miniature.

c section of a third body still smaller than but resembling the two former.

d external cut margin of the ovarium.

e cut surface of the stroma of the ovarium.

f cavity out of which the corpus luteum has been partially dissected.

g plicated yellow body.

h white albuminous-looking substance in the interior of the yellow body.

k fold traversing the centre of the corpus luteum.

On the surface of the right ovarium*

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* R. Lee, M.D., F.R.S., "Med. Chirurg. Trans.," vol. xxii., p. 329.

* This ovarium weighed 128 grs.; greatest length, 2 inches 9 lines; greatest depth over the corpus luteum, 10 lines, and its thickness here equalled 8 lines. The ovarium of a woman, aged 30, who had had a family, and died in full health, weighs 65 grs., being little more than one-half that of the ovarium

was observed several short fissures or grooves, and towards its distal part a general fulness, immediately over which there existed a well-marked fissure. These facts led to the belief that it contained a corpus luteum, and, accordingly, on dividing the ovarium along its free margin, in the axis of its greatest length, but avoiding the fissure above alluded to, the appearances as seen in the engraving, figure 1, presented themselves. *a*, marks the large corpus luteum which the knife had bisected longitudinally, and above this corpus luteum two other bodies, marked *b c*, precisely resembling the first in miniature, presenting really no other discernible differences but that of size. On the exterior of this ovarium, as we have already remarked, there are several fissures, and it is just possible that there may exist other small bodies besides those marked *b c*, but it was deemed unadvisable further to bisect the preparation. No Graafian vesicles were observable, either on the external or cut surfaces of the ovary.

In the left ovarium* a similar section in the long axis of the organ displayed a single corpus luteum, about one-third the size of that marked *a*, fig. 1; and in this ovarium (the left) may be readily observed numerous vesicles (Graafian?).

The dissection of these ovaria was then unavoidably delayed, and the preparations were deposited in alcohol, in which they remained for a considerable time, before another opportunity occurred of returning to their examination. The careful and deliberate scientific examination was resumed, partly with the view of verifying the above brief description, but chiefly to examine with more care into the intimate structure of the largest of these bodies (marked *a*, fig. 1). Upon the right segment the corpus luteum was dissected, and turned partially out of its position in connection with the substance of the ovarium; a loose cellular texture, with numerous vessels, was found to be the only connecting medium between the *plicated yellow body* and the stroma of the ovary, and this delicate cellular texture was the only structure investing the exterior of the yellow body in the shape of a *capsule*. This investing cellular texture sent numerous processes into the yellow body like partitions, and evidently giving rise to that plicated appearance which the section presents. Moreover, the substance of the yellow body admitted of being separated with great ease from its investing cellular tissue, and when so divested presenting the strongest possible resemblance to a gland. We have already mentioned that the ovaria had both been divided in the long axis, the section having apparently intersected the entire structure of the large *corpus luteum* (marked *a*, fig. 1). Of the characteristic plicated yellow part, marked *g*, we need say nothing further at present; it encloses on each section a smooth, dull white, membranous-looking structure, marked *h* in the figure, which seems to send processes outwards into the plicated yellow body, and to the inner surface of which it everywhere adheres intimately; lastly, quite in the centre of this there runs a fold marked *k*, elevated from the surface, and presenting the appearance of lateral branches; the centre and the fold itself being again, so far as we are able to observe, strictly analogous to, if not positively a portion of, the yellow plicated body. To this fold Dr. Montgomery and others (*if we understand their descriptions*) have given the name of *cicatrix*, but to which it does not bear the slightest resemblance, and in no shape can be called a *cicatrix*. The fold occupies the centre of a structure, which seems to be, and as we are indeed quite satisfied it is, nothing but the plicated yellow body itself, as if the whole albuminous-looking membrane or substance (*h*), which the knife had evidently bisected, either did not occupy the very centre of the plicated yellow body, or was so thin as to have exposed, by the section, a portion of the yellow plicated body itself. The object of this first part of our contributions not being in any shape critical in respect to the observations of others, I shall here avoid all remarks of that nature, but shall only observe that they seem altogether at variance with what has been said about "*fibrinous deposits, cavities filled with blood*, and *cicatrices* as indicating true corpora lutea from false," &c. Before quitting this ovarium I shall now describe the other appearances which the section presents, and which appearances have been usually described under the name of *false* corpora lutea. *b*, fig. 1, presents all the appearances of the large corpus luteum, marked *a*, but in miniature; the absence of the fold seems attributable to the comparative smallness of the body bisected; *c* resembles, upon one segment, *a* in miniature, but, upon the opposite section, the plicated yellow structure scarcely surrounds the whole of the white albuminous centre, in the midst of which there is a very obvious cavity, containing what appears to be a small quantity of grumous blood. How far these appearances, as we have described them, are reconcilable with the opinions and theories of late writers, and which of these are *true* corpora lutea, and which *false*, or, to use a more precise language, *from which*

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delineated in our plate. It may be observed that the ovarium weighing 65 grs. presents two very distinct Graafian vesicles, but no remains even of corpora lutea. The preparation is preserved in our private museum.

* This ovarium weighed 112 grs., or 16 grs. less than the right; its greatest length is 1 inch 9 lines; depth near distal end, 9 lines; breadth near distal end, 6 lines.

of these bodies sprung the fruitful ovum? are questions which we shall endeavour to discuss on their simple merits, without mixing up either our own theories or those of others, in the third part of these contributions; they may, indeed, be considered as purely theoretical questions, there being no inquiries before the public adequate to their solution.

The left ovarium, which had also been bisected in its long axis, and along its free margin, presents a well-marked plicated yellow body, with its albuminous centre; the absence of the central fold I am inclined to attribute to the comparative smallness of this body, although, in all other respects, there is really no difference in its structure from the large one marked *a* in fig. 1.

The second case to which I shall allude is that of a lady, who died two days after delivery at the full term. In one ovarium was found a *corpus luteum* rather more than one-half the size of the largest described in fig. 1; the remains of two miniature *corpora lutea* were also distinctly observable, and one pretty large cyst, with several smaller cysts, but these latter I considered pathological. Previous to the last child the lady had been delivered of several others at the full period.

I examined, with Dr. William Campbell, Lecturer on Midwifery in Edinburgh, the uterus (which had been several years in alcohol) of a person who had died in the fourth month of her pregnancy; the right ovarium* upon being mesially bisected in its long axis, presented a *corpus luteum* about 9 lines long, and 7 lines broad; there was also a central cavity about 3 lines long, and of the same breadth, but instead of occupying precisely the centre it was within less than a line of the surface of the ovary, with a corresponding decrease in the thickness of the plicated yellow texture around it.

The left ovary, when cut into, showed first a cavity similar in position and size to that just described in the right ovary; a blueish-white substance surrounded it, but no yellow plicated texture. In another part of the same organ is a cavity, close to the outer tunic, which, with the membranes enclosing it, resembles a Graafian vesicle, beneath which, and in immediate contact with it, is a sac much resembling the central cavity of a Graafian vesicle, surrounded for about two-thirds of its circumference by a structure, proving the whole, in our opinion, to be the remains of a fruitful Graafian vesicle, and the remains of a corpus luteum.

I may now briefly mention, that by the kindness of my medical friends in town I have had every opportunity of examining the corpora lutea in six cases of persons dead of acute diseases, and thus I have been able to observe the condition of the recent ovaria at almost every stage of pregnancy, from a period so early that an ovum could not be detected in the uterus, although the decidua was present, up to the full term, and likewise after delivery, from a period of two days to about six months.

Now, without troubling the reader with the details of these cases, I may here remark that the impression left on my mind was, that, co-existing with conception in the human female, there would be found a *corpus luteum* of considerable magnitude, but whether this corpus luteum was the *effect* or *cause* of conception, had not been determined. That the size of the body generally supposed to be the one from which the fœtus in the womb has proceeded, had not been determined, as to its different periods, with accuracy, but that upon the whole it seemed to have a rapid growth; that the periods of decay of this body, and the changes it undergoes, had not been described in such a way as to entitle the observations to be held as facts either by the physiologist or medical jurist; and that, lastly, the whole question of those miniature corpora lutea found in the ovaries of women, under a variety of circumstances, was one accompanied with the greatest difficulties, in solving which neither physiological nor obstetrical works, hitherto published, afford adequate data. Indeed, it seemed to me that the only practical conclusion which could be drawn from a careful examination of the whole facts and opinions to which I had access, was, that co-existing with a fœtus in the uterus, there would always be found a body of some magnitude, and of the distinctive characters of a corpus luteum; but that this conclusion would scarcely prove of any utility to the physiologist or medical jurist, in consequence of the numerous difficulties which beset the whole subject of its formation, development, and decay; and if this be true in respect to the single corpus luteum, which, from its size and regular character, the anatomist would be disposed to call the *true* one, that is, *the one from which the fœtus in the uterus at the time had come*, every practical anatomist knows that the difficulties are immeasurably greater when a number of such bodies are found in the ovaria of the same person scarcely differing from the so-named *true* one, in any circumstance, but that of size, and sometimes (as we shall afterwards show) not even in that.

In concluding our Part I., it may be useful to draw the attention of the reader to the difficult questions which arise out of a single case. These difficulties have not been observed merely of late years; they were clearly apprehended by Santerini, Morgagni, Hunter, and others; Haller also had

* This ovarium measured 1 inch 8 lines in length, and 9 lines in breadth; its weight was not ascertained.

given them much of his attention. A detailed history of the views of these great men would be useful to the physiologist; but I shall here allude only to the opinions of Hunter. And as I propose discussing these views at greater length, I shall here advert to them very briefly. Sir E. Home states in the preface to his work on "Comparative Anatomy," that this work, though published under his name, may be considered merely as a descriptive catalogue of Hunter's "Museum." I presume, therefore, that it contains the most of Hunter's opinions; but if any doubt had remained on this point, such doubt was entirely removed by Mr. Clift's evidence before the Committee of the House of Commons, who added, that besides being a descriptive catalogue of Mr. Hunter's "Museum," the greater part, or nearly the whole of the text of Sir E. Home's "Lectures on Comparative Anatomy," were merely extracts from the MSS. of Mr. Hunter, which MSS. Sir E. Home afterwards burned; and that these extracts, or lectures, or by whatever other name they may be called, did most unquestionably contain by far the greater part of Mr. Hunter's theoretical opinions on most physiological subjects.

Since these facts are so, I hope I may venture to draw the following conclusion, viz., that the lecture on Generation, contained in Sir E. Home's work on "Comparative Anatomy," may be viewed as a memoir compounded of copious extracts from Mr. Hunter's MSS., and of a few hasty observations by Sir E. Home himself, interpolated with but little art amongst Mr. Hunter's observations and theories.

Now, judging of Case I., detailed in the commencement of these Contributions, and applying his theory to it, conclusions directly opposed to the ones generally received would be arrived at: for, *First*, The largest corpus luteum found in the right ovarium, would have been viewed by Mr. Hunter, *not* as the one from which had come the fruitful ovum found in the uterus after the death of the patient, but rather as the one from which was to come the next fœtus, had the lady lived, and become again pregnant. *Secondly*, The smaller corpora lutea (marked *b c* in the same drawing) would have been viewed by Mr. Hunter as appertaining, the one to the fœtus then existing in the uterus, and the other as one from which no fruitful ovum had ever come. The left ovarium also contained a well-marked and distinct corpus luteum. *Thirdly*, We are warranted, I think, in inferring, from the same work by Sir E., that Mr. Hunter viewed the corpus luteum as a body whose production and growth were altogether *independent* of any connection with the male,—that its function is to form or secrete the ovarian ovules, and that these are formed by, and will be found in virgin ovaria of all mammals.* But, from the imperfect notices of Sir E. Home, I cannot be quite certain whether Mr. Hunter thought that corpora lutea formed in females that had not only no connection with, but that had never even seen the male. These theoretical views, for they are strictly so, it is my intention to examine in Part III. of these Contributions.

MALFORMATION OF THE GENITAL ORGANS.

To the Editor of THE LANCET.

SIR:—If you think the following cases will be at all interesting to your numerous readers, they are very much at your service. I am, Sir, your obedient servant,

SAMUEL ARGENT.

Hinckley, April 27, 1840.

John Purser, six years of age, a chubby-faced and healthy-looking child, has malformation of the genital organs. The umbilical chord was not attached to the central part of the abdomen as usual, but immediately above the pubis, from which part there projects a tumour of about the size of a pullet's egg, having a raw and bleeding surface. It may be emptied, by pressure, of its contents, which communicate with the cavity of the abdomen. Immediately below the tumour, or swelling, is the representative of the penis, a flat substance, about a quarter of an inch in length, the point being somewhat rounded like a glans. This part is attached by a frænum to a similarly-formed substance, which appears to be an improperly developed prepuce; there is no urethra. Underneath this rudimentary penis are distinctly marked upon the skin the rugæ and raphé of the scrotum, and the testes may be felt within the integuments. On each side of the part resembling the penis is a small opening, through which the urine is constantly dribbling; probably these are the terminations of the ureters, and there is no bladder. In addition to this unfortunate state, the child is afflicted with a prolapsus of the rectum to the extent of four inches.

CASTRATION SUCCESSFULLY PERFORMED BY A PATIENT.

Thomas Aldridge, aged thirty-five years, formerly servant to a military surgeon, ap-

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* We cannot perceive that Mr. Hunter includes the human species. We are of opinion that great and important differences exist between the human structure and that of the lower animals, and which we shall endeavour to show in Part II. of these Contributions.

plied to me to remove an enlarged and painful testicle, which had given him much annoyance for several years. Not considering the disease to be one of a malignant character, I did not feel justified in complying with his request. Several weeks afterwards a summons was sent to my house for my attendance upon a man who was "bleeding to death." Not being at home a medical friend attended for me, and found the patient to be the above-mentioned individual, in a state of syncope from loss of blood. It appeared that he had made a longitudinal incision with a razor through the scrotum over the diseased testicle, had then pulled it out, and cut through the spermatic cord. My friend after some difficulty, arising from the retraction of the cord, secured the artery, the wound went on well, and in three weeks healed. The patient was much delighted with having got rid of his troublesome enemy, and also with his own surgical skill.

CONGENITAL DEFICIENCY IN THE URINARY BLADDER; PARTIAL NON-CLOSURE OF THE LINEA ALBA; WITH EPISPADIAS.

To the Editor of THE LANCET.

SIR:—Seeing in THE LANCET of last week the account of a case of congenital deficiency of the urinary bladder, I am induced to send you the following statement of a similar defect:—

January 27, 1840, Mr. Welchman, my assistant, attended a young woman during her confinement with her first child. The infant appeared healthy, but at the lower part of the abdomen was a tumour, which presented an irregular lobulated appearance; it was covered with a mucous membrane, and near its centre were two depressions, from which the urine oozed. These were probably the mouths of the ureters. The penis was at first somewhat longer than usual, but has since, as well as the tumour, much diminished in size. The corpus cavernosum and glans penis are well-formed, but there is no prepuce. Along the dorsum of the organ is a groove having the appearance of the urethra, slit open, and extending the whole length of the penis, but there is no meatus. The scrotum and testicles are natural. The child appeared from irritation to waste for the first month, but by attention has recovered, and is now doing well. I am, Sir, your most obedient servant,

JOSEPH CURTIS.

Camden Town, April 17, 1840.

INFLUENZA

COMPLICATED WITH HOOPING-COUGH, TREATED WITH FREQUENT DOSES OF CALOMEL.

To the Editor of THE LANCET.

SIR:—If you should think the following case of sufficient interest to occupy a place in your valuable Journal, it is very much at your service. I am, Sir, your obedient servant, WILLIAM JONES, M.R.C.S.L.

Ulverston-super-Mare, April 15, 1840.

On the 22nd of March, P.M., I was called to see a little girl, 2½ years old, who appeared to be suffering from influenza. She had lately recovered from an attack of the head (cerebral congestion, I imagine), and was sent here for change of air, in consequence of hooping-cough. I ordered her a warm bath, and calomel with jalap, immediately, and one-sixth of a grain of tartarised antimony every fourth hour.

23. Breathing worse, symptoms of pneumonia having set in; râle crepitant very distinct. Two leeches were applied under each clavicle, and a blister to the sternum. Repeat the cathartic, and administer the tartarised antimony every two hours. Evening: Breathing no better; occasionally there is a violent attack of the spasmodic cough, attended with a loud hoop; the antimony occasions slight nausea. Repeat the warm bath, and give two grains of calomel, with one-sixth of a grain of tartarised antimony, every two hours.

24. None of the symptoms relieved; bowels not open; skin burning; breathing very quick; constant thirst. Two leeches to be applied to the chest, together with a blister; castor oil immediately, and the following powder:—

Chloride of mercury, and powder of scammony, aa grs. ij;
Powder of ipecacuanha, gr. i. Ft. pulv. To be taken every two hours.

My friend, Mr. Hardwick, saw the case with me to-day. He advised two more leeches, and the calomel to be persevered with. In the evening the bowels were plentifully opened, the other symptoms remaining much the same. Omit the scammony, but continue the calomel and ipecacuanha every two hours.

25. A little improvement in the breathing; bowels not opened during the night; mouth not sore. Let her have a warm bath immediately, and some castor oil; continue the calomel.

26. About four o'clock this morning the nurse observed the breathing to have become slower. I visited my little patient at eight, A.M. The mouth was evidently affected, the cheeks were somewhat tumefied, and the breath fœtid; all the symptoms

were improved. Omit the calomel. Evening: she continues improving, but is very weak. I ordered her arrow-root, with a few drops of brandy occasionally, and isinglass with gum frequently.

27. She continues to improve; but is very much debilitated, and is harassed with the hooping-cough, for which I ordered frictions to the spine, and the following mixture, with very great benefit:—

Simple syrup, ℥iiss;
Extract of conium, grs. ij;
Extract of hyoscyamus, grs. ij;
Hydrocyanic acid, min. ij;
Syrup of squills, ℥ij;
Mucilage of gum acacia, ℥ij. mx. A teaspoonful to be taken three times a day.

From this time she continued to improve daily, and left here on the 14th inst., with little else than debility remaining.

The above case I think to be interesting in several points of view (although nothing new is pretended to be advanced). First, as proving the large doses of calomel that children will bear without its producing any serious mischief in the mouth; Secondly, as showing how suddenly and rapidly the disease gave way, so soon as the system became affected with the mercury; and, lastly, the great value of a combination of sedatives in pertussis.

SUDDEN METASTASIS OF RHEUMATISM TO THE HEART.

To the Editor of THE LANCET.

SIR:—I transmit the particulars of the following case of rheumatic metastasis, hoping it may not be uninteresting to the readers of your truly valuable Journal:—

James Godwin, a carpenter, having been for some years troubled with attacks of acute rheumatism of an erratic nature, had one, on the 16th of April, in the elbow-joint of the left arm. Being desirous of removing it he applied to a chemist, who gave him an embrocation, which had the desired effect in a few hours. (I must remark that he had been previously cautioned against using any external application, in consequence of the pains suddenly flying from one part of the body to another.) From that period (ten o'clock in the morning) until nine o'clock in the evening, he felt considerable præcordial uneasiness, which prevented him from taking his usual food. At nine o'clock he was seized with pain between the fifth and sixth ribs, accompanied with tremors and inclination to faint, the symptoms increasing in violence. At ten o'clock I saw him, and found his pulse irregular; at one period slow and labouring, at another hard, quick, and wiry. The sound of the heart was similar to the *bruit de rape* muffled, or to the noise of two dry surfaces rubbed together; his breathing was irregular at one period, hurried at another—slow; the countenance expressed alarm; and the tongue was dry and loaded. I bled him to syncope from a large orifice, ordered his feet to be bathed in mustard and water, and gave him eight grains of calomel with ten of Dover's powder, to be followed by ten minims of tincture of digitalis, and fifteen of antimonial wine, every two hours. The next morning at ten o'clock there was but slight improvement, the pulse still continued wiry, but was not so irregular. I therefore bled him again to syncope, and gave the common aperient mixture, with fifteen minims of the wine of colchicum every two hours. At two o'clock there was considerable amendment, the pain was relieved, and the pulse soft without irregularity; the skin was cool, and the anxiety of the countenance completely removed. There was a slight return of the symptoms in the evening, in consequence of a cough which had come on at that time; but a small blister removed them before morning, and he has returned to his work these last two days perfectly well.

You may see by the above that I am no advocate for the homœopathic system, perhaps *in medio tutissimus*.

PETER BERRELL, Surgeon.

53, Mount-street, Lambeth,
April 28, 1840.

DUMBNESS PRODUCED BY SULPHATE OF QUININE.

BY DR. MÉNAGE.

MADAME L., 22 years of age, nervous, irregular in menstrual functions, subject to hysterical affections, was seized with intermittent fever, which evinced its activity by the periodic return of the above symptoms. After the six first attacks, twelve grains of sulphate of quinine were ordered, to be exhibited in three doses during the intermission. The two first doses produced no effect; but immediately after taking the third, extreme nervous excitement was induced, the features became sharp, the eyes projecting; there was violent pain in the head, and, finally, a total inability of utterance. The sense of hearing and sight were unaffected. This condition after lasting for twenty-four hours ceased instantly, leaving behind it merely a slight confusion in the head. The fever did not reappear.

This case loses much of its interest from occurring in an hysterical patient. A similar case was observed by M. Bertin, and published in a thesis by that gentleman in 1839.—*Gaz. Med. de Paris*, April 25, 1840.

THE LANCET.

London, Saturday, May 9, 1840.

Sir Henry Parnell has given notice of his intention to submit very shortly to the House of Commons the Bill for enumerating the Population in 1841. The census has been taken four times since 1801; and four Acts of Parliament have been created for the purpose. The present Bill would pass merely as a matter of course, if the science of vital statistics had not made great progress within the last ten years; and if it had not been well established by the writings of Edmonds, Milne, and others, that the census has hitherto been crudely conceived, and imperfectly carried out, in this country.

We need not say one word on the importance of this great national undertaking. Its direct connection with the higher and more exact departments of medical science is evident; and it is not a little flattering to the medical profession that Dr. Heysham, a member of our body, set the first example of a correct census. Dr. Heysham enumerated the ages of the population of Carlisle in 1780; and in 1787 he procured returns of the ages of the dying, and of the diseases in the nine intervening years; and thus laid the basis of the Carlisle Table, which, in Mr. Milne's hands, became so justly celebrated all over Europe. The Carlisle Table superseded the erroneous Tables which had been previously employed; and it is used in a considerable number of the Assurance Offices, in which millions of English money, and the hopes of so many English families, are vested. None but the observations on the Swedish population could be compared in accuracy with the censuses of Dr. Heysham; for on no other Tables could a Table of mortality be framed, on just principles. The registration of deaths under the Registration Act, and a good census, will furnish the fundamental data of all the more important problems in vital statistics.

The Population Acts of this country have been intituled—"Acts for taking an *Account* "of the *Population* of *Great Britain*, and of "the *Increase* or *Diminution* thereof." The title expresses in general terms the object of the British census, which is intended to ascertain, at decennial intervals, the number, the sex, the age, the occupation, and other circumstances of the population—so as to show the progress of the national resources, the distribution of our industry, and, in connection with the births and deaths, the health and the increase, or the decline, of the people of this kingdom.

In taking the census, three points present themselves for consideration: the facts which the census shall embrace; the mode in which the facts shall be recorded and classified; and the agents, or the machinery, by which the census shall be effected.

The census of 1831 exhibited the following facts:—1. The *area* in acres of the several parishes, &c.—2. The number of *houses*—(*a*) Inhabited. (*b*) Building. (*c*) Uninhabited.—3. The number of families.—4. The number of families—(*a*) Employed in agriculture. (*b*) Chiefly employed in trade, manufactures, and handicraft. (*c*) All other families.—5. The number of persons of males and of females. 6. The number of *males* twenty years of *age*, and their *occupations*, specifying whether they were engaged in agriculture, and (*a*) employing labourers; (*b*) not employing labourers; (*c*) labourers employed; or (*d*) employed in manufacture, (*e*) in retail trade, or handicraft; (*f*) capitalists, professional, or other educated men; (*g*) labourers employed in labour, not agricultural; (*h*) other males twenty years of age, excepting servants; (*i*) male servants, twenty years of age; (*k*) male servants, under twenty years of age; and (*l*) female servants.

The abstracts exhibiting these particulars contained twenty-three columns of figures, of which fourteen, besides Tables, referred exclusively to the occupations of the people. The inquiry into the occupations is believed

to have failed; and it led to no satisfactory results.

The ages of the population were not enumerated in 1831; but in 1821 the following direction was addressed to the overseers:—"If you are of opinion that, in making the "preceding inquiries (as to the number "of families and of persons), the ages of the "several individuals can be obtained in a "manner satisfactory to yourself, and not "inconvenient to the parties, be pleased to "state the number of persons who are under "five years of age, of those between five and "ten years of age," &c. &c. The ages of 10,530,671 persons were returned: the entire population in 1821 amounted to 11,978,875.

The return of ages, when it was left optional with the overseers, and the parties enumerated, succeeded; it is the basis of all the more important calculations in vital statistics and political arithmetic; it is therefore evident that the ages should be enumerated, and the specification of ages, in quinquennial periods of life, may be regarded as indispensable.

The number of each sex will be ascertained.

In the census of some foreign countries, the number of blind, of deaf and dumb, and of idiots, is distinguished. This is rather a matter of curiosity than of great practical utility. A return of the numbers labouring under sickness, and disabled, either by infirmity or disease, in different parts of the country, would throw much light on the health of the population, and on the causes of disease; it would furnish invaluable information to the Friendly Societies, and would lead to many important statistical results. The return can be easily procured. We should therefore recommend that this fact be specified in the ensuing census.

There is a constant immigration of the country population into the towns—from different parts of the kingdom to the metropolis, from Ireland and Scotland to England, &c. Emigration is an exceedingly important event in the social economy of a country; and although it has never been investigated in the British census, it appears to us that the number of the heads of families born in each district, and the number of immigrants, strangers or foreigners, may be readily ascertained, and would form an interesting topic of information.

Without entering into further detail, we may state that the following heads of inquiry should be kept in view in framing the abstracts. All the important facts in the former censuses have been retained:—

Area of district.

Number of houses.

(*a*) Inhabited.

(*b*) Uninhabited.

(*c*) Building.

The number of persons, males and females.

The ages, 0-1, 1-2, 2-3, 3-4, 4-5, 5-10, 10-15, &c., &c., males and females.

The numbers *sick* (of males and females, at different ages).

The number of indigenous inhabitants.

Occupations (according to some well-devised classification.)

We have purposely omitted "families" in the heads of inquiry. If the population were enumerated genealogically, in families and tribes, according to their degrees of relationship and affinity, or if the parents, and the number of their children, were specified, the inquiry might not be uninteresting. But this is impracticable; and, in addition to the number of inhabited houses, it does not appear that the specification of the families which, according to the definition in the last enumeration, comprised "*those who used the same kitchen*,"* can answer any eco-

* Preface to Enum. Abstract, p. 9.—Mr. Rickman has pointed out the vagueness of this question. "The question whether a single person, inhabiting a house solely, or lodging, but not boarding, in another man's house, is to be deemed a family?" This admits only of the unsatisfactory answer, that it cannot be otherwise; "and, by this negative paralogism, is decided in the affirmative."

nomical, not to say political purpose. Moreover, the relative proportion of "families" to persons and houses has been already ascertained.

The census should not be encumbered with any inquiries which are not likely to lead to important practical results.

The census of 1801 extended to England, Wales, and Scotland; in 1821 and 1831 it included Ireland. The census of 1841 should be extended to the British Colonies; and the same particulars should be specified with regard to all persons of British origin who are abroad, as in the census at home. It might be enough to ascertain the total number of males and females in the respective provinces of India, under the British dominion, and in some other parts of the empire. Measures may also be taken for obtaining an approximation to the number of British subjects in France, and in other countries.

The census of 1841 would thus present a complete account of the population of the empire—in Great Britain and Ireland, the North American Colonies, the Mediterranean, the West Indies, the West Coast of Africa, the Cape of Good Hope, the East Indies, and Australia.

The census of the population in the remote colonies would be attended with some difficulties; but the noble Lord, the Secretary for the Colonies, could make such arrangements with the Governors and the local authorities as would ensure its success.

The census of the Colonial population would furnish the Government with much important information: it would show the strength and importance of the provinces and races; the number of fencible men that could be relied upon, or called out as a militia upon emergencies, the mortality of different races; the relative salubrity of the different climates and localities, under different circumstances.

The *mode of taking the census, and the agency by which it is effected*, must undergo certain modifications in the different divisions of the empire. In laying down the general principles of the inquiry, we will first deal with England; and then glance at a few of the modifications which circumstances may render imperative in other parts.

The census has hitherto been taken by the overseers of the poor, and their assistants, who proceeded from house to house, recorded the several facts, and at the same time made the abstracts in a prepared formula—of which a specimen is given in the Preface to the Population Returns, p. vii.

In like manner the Parish Register Abstracts were made in the first instance by the clergy.

The abstracts prepared by the overseers of 10,700 parishes were transmitted to Mr. RICKMAN, by whom they were arranged and classified. The census commenced on the 30th day of May, 1831, and the Enumeration Abstract was ordered to be printed on the 14th of February, 1834.

The British census has been much more accurate than, under the circumstances, could have been expected. The abstracts have been sufficiently simple; little skill, practice, or instruction was required in their preparation; and a few checks must have ensured their accuracy. But, from all we have observed, we are led to consider the plan of entrusting the reduction of the abstracts, as well as the registration of the facts, to the enumerators, as highly objectionable. In astronomy and meteorology, and every other science founded upon observation, the simple facts are first registered and are afterwards collected, classified, and reduced. This course should be pursued in the census. The enumerators should register the facts embraced by the inquiry, in a prescribed form, from which the abstracts should be made, under proper supervision, on a well-devised plan, with adequate checks.

This plan, by the application of the principle of the division of labour, would ensure a greater degree of accuracy, and it would have this manifest advantage, that the facts registered, and collected in their

elementary form, would admit of any classification, combination, or tabular arrangement that might afterwards be deemed advisable. When the abstracts were made by the overseers, they could only be arranged in the form originally prescribed. When the errors of the last census, in the omission of the ages, and the failure of the return of occupations, were discovered, they could not be rectified, as all the original facts were destroyed, if they ever existed in a correct form.

We shall take an early opportunity of discussing, in detail, some of the more important points in the census; and in the machinery by which it is carried into effect. The division of the country into districts by the Registrar-General, and the existence of a class of officers who are habitually accustomed to record similar facts, as well as to communicate with a central office, present facilities which did not before exist.

SMALL-POX PREVENTION BILL,

FRAMED BY MR. WAKLEY.

The following is a draught of a Bill which it is probable would have been proposed to the House of Commons on Monday evening last, May 4, if the discussion on the Bill which has been passed by the House of Lords had taken place at that time.

The motion for going into Committee on the Lords' Bill was postponed by Sir James Graham from Monday last to the 11th of May. Additional time, therefore, is afforded for the consideration of this highly-important national question. In inserting the communication of Mr. Dodd, of Chichester, Mr. Wakley hopes that other practitioners who may have suggestions to offer on the same subject, will make them at a sufficiently early period to render the facts which they may contain available in the House of Commons at the proper period. The members of the profession will observe that the "Order for Vaccination" attached to this Bill has been constructed so as to render it effectual, perhaps, for all the purposes for which an Act of this kind could be framed. It is, for instance,

1st, An order for the vaccination of the person requiring that operation.

2nd, It shows the name, age, and residence of the person to be vaccinated, and the occupation of the parents.

3rd, Who was the vaccinator.

4th, When the operation was performed.

5th, Whether successfully or not.

6th, It contains the testimony of two witnesses to the correctness of the foregoing statements.

7th, It becomes, first of all, a voucher that the charge for the vaccination is due to the operator.

8th, And, afterwards, when in the possession of the parochial officer, it is a receipt (or voucher) for the payment of that charge.

9th, Placed on a file, these orders render unnecessary the trouble of keeping a book of account, or register, of the vaccinations.

10th, The order affords the opportunity of recording practical remarks on the case, for future collation and use.

The free distribution of these Orders among the medical men of every district of the kingdom, on the application of the medical practitioners themselves, and the prevention, by legal ordinance, of all inoculation for small-pox, will seem to secure, by the simplest means that can be devised, an effectual machinery for ensuring the general practice of vaccination throughout this country. Such a Bill will not be the less acceptable to the profession in consequence of its admitting of no interference whatever with the proposed arrangements, on the part of the Poor-Law Commissioners.

Respecting the reduction of the vast mass of important practical matter which the occasional contributions of even a few lines, only, from each vaccinator, in the last column of the "Order," must supply a form available for the purposes of science, we shall offer a few suggestions on another occasion. At present, the proper means do not exist. The entire medical institutions of the three kingdoms do not offer to notice one competent, efficient, trustworthy body in whose hands to confide materials of scientific value, the property of the nation, requiring indus-

trious collation and analysis. A National Faculty of Medicine would at once present a safe depository for such documents. Until possessing such an institution, the Vaccine Board may be made to serve the purpose.

A BILL

INTITULED

AN ACT TO EXTEND THE PRACTICE OF VACCINATION, AND TO PROHIBIT INOCULATION FOR THE SMALL-POX.

Whereas it is expedient to extend the Practice of Vaccination, and to prevent Inoculation for the Small-pox; Be it therefore enacted by the Queen's most excellent Majesty, by and with the consent of the Lords Spiritual and Temporal, and Commons in this present Parliament assembled, and by the authority of the same, that from and after the passing of this Act, every relieving officer, or clerk of any board of guardians, of any union in Great Britain and Ireland, and every overseer of any parish in England and Wales, wherein relief to the poor is not administered by guardians, shall, on application being made to him, deliver to the applicant an Order, framed according to the form contained in the Schedule hereunto annexed, for the vaccination of any person on whose account it may be required.

And be it further enacted, That from and after the passing of this Act, any person who shall inoculate with variolous matter for the purpose of causing the disease called small-pox, or shall use in any other manner any variolous matter for such purpose, in any part of Great Britain or Ireland, shall be liable to be summarily proceeded against and convicted before a justice of the peace, or a magistrate, on proof of such offence having been committed in England or Wales, or in case such offence shall have been committed in Ireland, then, before the magistrates assembled in petty sessions; and for every such offence such person shall be sentenced by such justice of the peace, or magistrate, or magistrates in petty sessions, as aforesaid, to be imprisoned in the common gaol, or House of Correction, for a term of not less than seven days, or for a longer term than three months, with or without hard labour.

And be it further enacted, That any legally qualified medical practitioner who may, by the authority of such Order, as aforesaid, vaccinate any person in any parish or union, he shall, on presenting the said order, within two calendar months from the date thereof, to the guardians or overseers of the unions or parishes, as aforesaid, be paid by the said guardians or overseers the sum stated in the Schedule, marked *B*, hereunto annexed. Provided always, That if the said Order be not presented within the period of two calendar months, as aforesaid, the payment of the sum stated shall not be made.

And be it further enacted, That the guardians of every union, and the overseers of every parish, as aforesaid, are hereby empowered and directed to pay such sums as are specified in any such Order, as aforesaid, out of the monies which are in their possession, from time to time, collected as rates for the relief of the poor. Provided always, That no such payment shall be made to any vaccinator who is not a legally-qualified medical practitioner, or to any person who holds the office of vaccinator under the National Vaccine Board.

And be it further enacted, That such guardians of any union, or overseers of any parish, as aforesaid, shall, in the month of January in every year, prepare from the Orders returned to him by vaccinators, a summary of the numbers of persons vaccinated, and of the ages of such persons, and of the instances in which the operation was unsuccessful, and shall forward the said summary to * * *

B.—The sum to be named in the Vaccination Order, shall not be less in amount than two shillings, or more than three shillings.

At the Septenniary Festival of the London Hospital, in the Mile-end-road, held the other day at the London Tavern, the Duke of Cambridge in the chair, the subscriptions announced in the room, at the conclusion of the dinner, amounted, incredible as it may appear, to the noble and generous contribution of Ten Thousand and Nine Pounds, and, in addition to this enormous sum, as a general subscription to the hospital, it was announced that a sum of One Thousand Eight Hundred Pounds had just been subscribed, by gentlemen of the Jewish persuasion, towards the erection of an additional wing to the building, for the reception of destitute and afflicted Jews.

Facts of this description are calculated to raise the character of this nation above that of all others on the face of the globe. Where, beyond our own shores, could be found a company,—simply, almost, a private meeting,—at which a sum of Eleven Thousand Eight Hundred Pounds would be subscribed in charity over the dinner table? Who shall say that England is poor, when such tales as these can be truly related?

SCHEDULE.

A.—ORDER FOR VACCINATION.

Parish of Dartford, County of Kent.

This Order is issued by me on the 1st day of July, 1840, for the Vaccination of *Catherine Mitchell*, at a Charge to the Poor-rate of this Parish of the Sum of *Two Shillings and Sixpence*.

Daniel Martin, Overseer (or Relieving Officer).

*** This Order must be presented to the Guardians or Overseers within two calendar months from the date thereof, or the payment mentioned herein cannot legally be made. The Vaccinator, before he returns it, must supply in writing the information required under the following heads:—

Name, Age, and Residence of the Person vaccinated, and Names of the Parents, their Rank, or Occupation.	Day of the Month and Year when the vaccination was performed.	Whether successful or not.	Remarks of the Vaccinator.
Catherine Mitchell, aged *three months, daughter* of *John* and *Elizabeth Mitchell, labourers*, of *Water-lane, Dartford.*	*July 3rd*, 1840.	*Successful first time.*	

I hereby testify to the accuracy of the statements contained in the above columns.

C. H., Surgeon and Vaccinator.

I hereby certify that *Catherine Mitchell* was vaccinated on the day stated in the above column.

John Mitchell, Parent (or Guardian).

VILLAGE LEECHES.—GOOD TASTE OF SIR HENRY.

It is amusing to observe the new modes of expression which our friend Roderick occasionally invents to convey his ideas of medical affairs to the little circle of subscribers to whom he hands his hebdomadal on a Saturday morning. Last week, desiring to refer to the great bulk of his brother practitioners, the "subordinates," he suddenly remembered that some of them resided in country districts, and forthwith denominated the class as "mean village leeches." One would have thought that even Roderick had by this time—after so many lessons and castigations—have learned to call his brethren by some reputable name. To quote him fully:—"If, however, these great physicians (Hoffman, Cullen, and Pringle) no longer reign in the schools, the practice which they founded on them still influences ours; and the MEANEST VILLAGE LEECH practices very differently from what he would have done had Pringle and Cullen never lived. Few now read Boerhaave or Hoffman; many do not even read Sydenham (more shame for them!); but the practices of these great masters is *as universally diffused as the gentle gale of the Spring*, though they who breathe it do not know whence it comes!"

The "village leeches" are nearly twenty thousand strong in England, and so it is that "the practice of these great masters is *universally* diffused." But, poor leeches! *they* "do not know whence it comes." All knowledge of this kind is limited to the Dubs and the Pures.

A little farther on he writes a fine report, in the form of an essay, on the annual dinner of a Society for "the Relief of Widows and Orphans of Medical Men." Out of their funds the Widow LOCKWOOD may, ere now, have been assisted. Who presided on the occasion? The President of the College of Physicians, the "friend" of the deceased husband. No more appropriate chairman for a Widow's Fund Dinner could be found. And how did he preside? Hear Roderick! "Sir Henry Halford presided with HIS USUAL GOOD TASTE!" The good taste with which Sir Henry left the unfortunate husband to die on the Birmingham Railroad, is tolerably notorious, and need not be cited in justification of this description.

WESTMINSTER MEDICAL SOCIETY.

Saturday, April 25, 1840.

Mr. Streeter, President.

ABSCESS OF THE BRAIN.—ADJOURNMENT OF THE SOCIETY.

The society held its last meeting for the session this evening.

The President exhibited a preparation, of which he related the following particulars:—The case had occurred in the practice of a friend. The patient was a girl, twelve years of age. Three years ago she suffered from measles; she got well, with the exception of a discharge from the ear, which continued more or less until her death. She was subject to frequent attacks of earach, which were followed by free discharge. No means were employed for the removal of the complaint, except cleanliness, and the insertion of wool into the ear. About a month before her death, she was seized with a convulsive fit, after which she suffered from excruciating pain in the left side of the head, and became at first partially, and subsequently quite insensible. There was no stertor in breathing. She used the most childish language, although, previous to the attack, she was a very intelligent child. She had four or five shivering fits, became rapidly emaciated, and, three or four days before death, was observed to have a grumous discharge from the mouth. There was no paralysis. On examination, four or five ounces of excessively putrescent, and thin, dark, greenish matter, were found in a cerebral abscess, not communicating with the ventricle. The adhesive deposit lining the sac was readily separable. There was fluid in each of the ventricles, and a circular opening at the base of the middle lobe. The anterior and upper portion of the petrous part of the temporal bone was much affected. The auditory nerve was unaffected. The dura mater was inflamed, and there was a deposit, in the course of the left lateral sinus, as though the matter had attempted to find an exit from the skull at the jugular foramen, and, probably also, as indicated by the discharge from the mouth, by the Eustachian tube. The course of the disease seemed to be from the mastoid cells to the superior portion of the temporal bone.

A discussion of some length followed the narration of the above case, having reference to an abstract theoretical question, which offered nothing worthy of reporting.

The society adjourned until the third Saturday in October next; the Chairman, on retiring, congratulating the members on the prosperous state of the society.

MEDICAL SOCIETY OF LONDON.

Monday, April 20, 1840.

Dr. Clutterbuck, President.

NEW MODE OF TREATING SCARLET FEVER IN ITS MORE FATAL FORMS.—TREATMENT OF CROUP.

The President made some observations on the fatality and prevalence of scarlet fever at the present time. He remarked that the treatment of this affection, as now pursued in many cases, was to him very unsatisfactory; so much so, indeed, that he sometimes scarcely knew on what principles he was acting. He had rarely seen sufficient to convince him that the mode of treatment pursued had much to do with the cure of the case. He believed, indeed, that the treatment often effected nothing, while it was as frequently injurious. In those cases in which the eruption began to fade, the pulse became irregular, and the brain disturbed; stimulants were recommended to be given immediately. He had used them with much freedom, but the result had been anything but satisfactory to him. It was easy enough to bring up the pulse for a time by the use of stimulants; and if this were the sole object to be obtained by their use, it might be done. But the production of a more powerful state of the pulse was not always beneficial; on the contrary, the patient seemed sometimes worse after this was effected. The pulse, too, soon flagged again, and its power was not to be renewed by the repetition of stimulants at will, however freely they were employed. He believed that the stimulus of alcohol injured the brain, which was the organ chiefly affected by the injurious operation of the poison of the disease. When there was an equality of the symptoms present, the eruption being sufficiently abundant, and the throat but moderately affected, the case was disposed to end favourably. In bad and fatal cases, however, the eruption was apt to disappear; and, soon afterwards, stupor, delirium, a sinking state of the pulse, with great exhaustion of the system, to succeed. Now, if it were possible to renew the action of the skin without injury to the brain, we should reason, *à priori*, that the brain would be benefited. This was to be effected by counter irritants, and the more general the counter-irritant the more likely was it to be successful. The opposite effect on the brain was likely to result from the employment of stimulants.

He had lately been attending five members of a family with scarlet fever, four of them being children, and one a female servant. Two of the children died; the other two, with the servant, were now out of danger. All of them had been in a state productive of great alarm. He did not see the first case early, and the child died. He saw

the second case sooner, and adopted the plan which had been pursued with the first case, viz., the early administration of stimulants, for the purpose of rousing the system: this was at first effected, but the symptoms of depression returned; the child went from bad to worse, and died. The plan of treatment pursued in these cases being so unsuccessful, he felt it difficult to determine how to act with the two other children. It occurred to him, however, that if he could get a return of action to the surface of the body, the disease might be brought into a more favourable form. As the readiest mode of effecting this was by the use of the warm bath, impregnated with mustard, he determined on putting this plan in operation. A warm slipper-bath, that being large enough, was prepared for the third child. Owing to some mistake in the directions, as much as two pounds of powdered mustard were placed in it, and in this mixture the child was immersed. The stimulus of the bath soon became intolerable, and on removing the child at the expiration of three or four minutes, the skin was found to be intensely red; this redness continued, the child rallied, and did well. This case was encouraging. The servant-girl, a strong, country wench, twenty-three years of age, became in imminent danger; her pulse was frequent, small, and irregular; so much so, indeed, that one practitioner in attendance suspected this condition of the circulation could only be the result of cardiac disease; he (Dr. Clutterbuck), however, thought the brain to be chiefly at fault, particularly as the girl, previous to the occurrence of the fever, had been in good health. In addition to this condition of the circulation, the surface was pale and cold, and there was great depression. The mustard-bath was used, the action of the skin was restored, sweating was induced, and the patient recovered. In the case of the fourth child, the same remedy was employed with the same results. Looking at the disease as presented to us in cases of this description, the remedy employed appeared to be a rational one, as tending to bring the patient into that favourable state which is present when the symptoms of the disease are more generally diffused. The mustard bath was a remedy which he should never think of using, except for the purpose of obviating the most urgent symptoms. With reference to the use of stimulants in these cases, he might remark that the brain was already excited, and became more so by the administration of alcoholic drinks. We were apt to mistake apparent for absolute weakness, and thus err in the treatment we adopted. In these cases the brain was in an oppressed, and not in an absolutely debilitated condition.

Mr. Crisp read a paper on croup, the chief object of which was to recommend that the operation of tracheotomy in this formidable disease should be performed as a *dernier resort*. With this view he related several cases, in two or three of which he opened the trachea; but owing to the very late period at which the operation was performed, in consequence of the delay of the parents in giving their consent to the proceeding, no beneficial result followed. In all of these cases, Mr. Crisp believed that if the trachea had been opened when first proposed, life would have been prolonged; and, judging from the morbid appearances in one of the cases, he thought it not improbable that the child might have recovered; the adventitious deposit, in this instance, being confined to the larynx. With the view of placing the operation in question in a more favourable light than it was at present with the majority of the profession, Mr. Crisp referred to a number of cases, in which it had been successfully employed, and directed attention particularly to the cases of M. Trosseau, recorded in the "Journal des Connaisances Medico Chirurgicales." In a Table published by this distinguished surgeon, it would appear that he had performed tracheotomy for croup in thirty cases. Of these eight were successful. In six of the unsuccessful cases three of the patients were dying when the operation was commenced, and three perished in consequence of the inexperience of the assistants. Seven out of the sixteen last operated on were saved. Trosseau observes, that seven of these had been largely bled, and all of them died; thirteen had been moderately depleted, and six of these recovered; four had received no treatment, and two of them did well. With reference to the cause of the disease, Mr. Crisp considers it to depend very frequently on errors in diet; and in regard to the mode in which calomel acts beneficially, he makes the following observations:—

"The beneficial effects of calomel appear to me to arise from its peculiar irritative action upon the mucous lining of the intestines, which is often produced a few hours after its administration. I doubt, however, whether this or any other medicine is likely to be of service in the last stage of the disease."

Dr. Bennett considered that many of the cases of croup related by French practitioners were different from that inflammatory species of the disease known to English physicians, and that no data could be drawn from them as to the success of tracheotomy. With regard to the operation in cases occurring in this country, he thought we were not justified in having recourse to it early; and that in the latter stages, in consequence of the implication of the entire respiratory apparatus, it would be useless.

Monday, April 27th, 1840.

Mr. Leese, President.

TRACHEOTOMY IN CROUP.

Mr. Crisp referred the success of French surgeons, in their performance of tracheotomy in croup, to the after-treatment they pursued, viz., the application of a strong solution of nitrate of silver to the mucous membrane of the trachea, the false membrane being detached, and its further formation checked by this proceeding.

Mr. Headland considered that the operation of tracheotomy would only be successful in cases of genuine cynanche trachealis, and in these only where the disease was confined to the trachea. There would be much difficulty in determining this point. It was seldom, however, that tracheal inflammation existed long without involving the lungs and nervous system to such a degree as would render tracheotomy hopeless. He believed genuine inflammatory croup of much rarer occurrence than many practitioners supposed.

Mr. Pilcher considered that the operation in question would be perfectly justifiable, as a last resource, in cases of inflammatory croup. Tracheotomy, however, was a very difficult operation, and by no means as readily performed as some surgeons had asserted; he would rather take up any artery in the body than open the trachea of a child in these cases.

After a few words from other members, the Society adjourned.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, April 28, 1840.

Sir B. C. Brodie, Bart., President.

ON SEVERE INJURIES OF THE JOINTS, AND THEIR TREATMENT.

By Rutherford Alcock, *Esq., K. C. T.*

The author commenced by showing, that the only information we possessed on so important and complicated a class of injuries, was to be found scattered in various medical journals, and chiefly in the works of the military surgeons; and that even when all these fragmental data were collected, they were far from furnishing anything like a complete or comprehensive classification of the various kinds of injury defined in reference to certain fixed principles of treatment. To supply this was the object in view.

In reference to this class of injuries there was not only the grave consideration of amputation, and the necessity of determining in which cases there was a fair prospect of saving a useful limb, but there were other operative means, such as the excision of an articulating end of a diseased or injured bone, by which a limb might be saved without all the hazard of the reparative action, when the end of the bone was seriously implicated. Cases in which this alternative offered, required to be carefully defined.

Many of the general conclusions were founded upon a close analysis of the nature, progress, and results of ninety-six cases of severe injury to the articulations. Such of those conclusions as were numerical he had thrown into a tabular form, to which he adverted under the following heads:—

Mortality of these injuries in comparison with other kinds, and relative mortality in each articulation.

Comparative frequency of these injuries with those of other parts of the body, and of one articulation.

Causes of mortality in those who died while under treatment for the original injury—those who died after primary or secondary amputation.

From a review of numerical results, under these heads, the author passed on to the consideration of particular cases forming types of classes, and the principles of treatment applicable to each. Many highly interesting cases were shortly narrated, proving essential differences between injuries apparently similar in many circumstances, but yet requiring the application of different principles of treatment.

Upon these data, and the conclusions drawn from them, the author founded his grouping of the injuries into three classes, having reference to certain leading features of treatment.

Class 1.—Consisting of lacerated wounds external to the capsule. Incised or lacerated wounds penetrating the capsule. Penetrating wounds with abrasion of articulating surfaces. Simple fractures into joints with more or less displacement and ligamentous adhesions. Fissuring of articulating surfaces from compound fractures, complete or partial, in the vicinity, but without displacement of bone within the capsule. In this class are included those where the great majority of limbs may be saved, and where it should be a principle of practice to attempt it.

Class 2.—Foreign bodies lodged in the ends of bones, either not presenting on the articular surface, or on the same level, and smooth.

Foreign bodies traversing the ends of bones, without detaching fragments.

Internal laceration of ligamentous structure—lesion of blood vessels—with or without temporary displacement of articulating surfaces.

The *second* forms an intermediate range between those in which the principle is laid down that they may be saved, and those in which the contrary rule holds, viz., that the attempt ought not to be made. These, of all the injuries to joints, most require accurate diagnosis and sound judgment in determining the line of practice, whether to attempt to save or at once to condemn. The author had succeeded in saving many of these; but it certainly was not always judicious to make the attempt.

In the kind, "Foreign bodies traversing the ends of bones without detaching fragments," an example was presented after the meeting, and examined by many Fellows of the Society. The author had succeeded in saving a limb so strong, that the man had walked from London to Liverpool. A musket-ball had entered at the inner edge of the patella, fracturing it, and traversing the internal condyle, and came out near the centre of the popliteal space.*

Class 3.—Compound fractures into joints with displacement and roughened edges. Foreign bodies projecting into articulations, or traversing with extensive injury to structure. The third class includes those kinds, where the principle of practice is to amputate without delay—the injury being of an irremediable character, the system from the first moment takes alarm, and each succeeding hour rapidly diminishes the powers of the patient. He had known only one case (except of the hand or foot) recover, where there was fracture into the joint, causing displacement and roughened edges, and that was of the elbow.

Many valuable preparations were shown to the Society, exemplifying different kinds of injuries to the articulations, and their effects.

Mr. Charles Hawkins, in reference to a case which had been alluded to by the author, now under the care of Mr. White, in the Westminster Hospital,* mentioned the

* The particulars of this very interesting and almost *unique* case, were the following. The patient was 23 years of age, of fair and florid complexion. In January 1836, he was wounded at the battle of Arlaban. Mr. Alcock happened to be riding past the spot where he fell, a few minutes after the wound was received, and observing that the injury was at the knee, dismounted to ascertain the precise nature and extent of the wound, before any swelling or inflammation should supervene, and render the examination impossible. He passed his finger into the wound, and ascertained that a musket-ball entering at the internal edge of the patella, and partially fracturing that bone, had passed through the internal condyle, emerging close to the inner hamstring near the central horizontal line of the popliteal space; its course from its entrance being nearly obliquely upwards. He could detect no fracture or fissure of the articulating surface; the ball had made a free passage without detaching any fragment of the condyle from the shaft. He determined on endeavouring to save the limb, and had the man conveyed to the rear. Mr. Alcock remarks that, "late at night one of the regimental surgeons—quartered with his men in the same village as myself—requested I would see a wounded man, whose leg he thought should be removed without delay. On arriving at the quarters, I recognised in the patient the man I had already seen in the field. The limb was swelled and so considerably inflamed, that examination was no longer possible, and had I not previously satisfied myself of the nature of the injury, I should probably have taken the same view of the case as my colleague. As soon as I had succeeded in having the wounded conveyed to the hospitals in Vittoria, I took good care of him. The inflammatory accidents were less violent than I had anticipated, and even the suppuration not excessive, and in thirteen weeks he was upon crutches."

He has now fully recovered the use of his leg, and although there is some degree of anchylosis limiting its flexion, he is able to take great exercise, as stated in the abstract above. Since his return to England, he has been once laid up for a short time, by what he describes as an abscess about the knee-joint, with considerable swelling.

This is one of the three cases brought forward by Mr. Alcock, to prove that destruction of the knee-joint was not, necessarily, the result of the passage of a ball, opening the capsule and passing through the spongy end of the femur. Doubtless it was impossible to predict with certainty, what degree of inflammatory action might ensue, and a certain degree of risk must be attendant upon every trial to save a limb thus injured. In the particular class of cases here referred to, Mr. Alcock considers that the chances of success are sufficient to warrant the attempt.—*Reporter*, Lancet.

* This case is one of much interest, and we shall give a detailed account of it at its termination. The patient is a boy about six years of age, who, while riding behind a cab some months since, got his leg entangled in one of the wheels. The thigh was fractured. On admission into the hospital a large wound was found in the ham, through which the extremity of the femur protruded, having been torn from its epiphysis. The vessels lay in front, and were uninjured. As the joint did not appear to be involved Mr. White determined on attempting to save the limb. He accordingly removed the extremity of the femur, and placed the bone in its natural position. There was much constitutional irritation for a long

following:—A little boy, while riding behind a carriage, got one of his legs entangled in the wheel, and sustained a fracture of the thigh. He was brought to St. George's Hospital, when it was found that he had a large wound in the ham, through which the extremity of the femur protruded. The limb was removed. On examining the knee-joint it was found to be perfect, the bone having been merely torn from its epiphysis. The artery and vein were found to be uninjured.

Mr. Bransby Cooper observed, that the author of the paper seemed to consider that there was much less danger in laying open the synovial membranes of joints, than had been usually supposed, unless, indeed, there was some foreign body in the cavity of the joint keeping up irritation. He (Mr. C.) thought these views correct, and would mention a case in illustration. A man received an injury by which one of the patellæ was carried away entirely, and the joint laid open, the synovial membrane being torn through, and the articulating surfaces of both the tibia and fibula exposed, but not otherwise injured. It was at first thought advisable to amputate the limb immediately, but on consultation with another practitioner it was determined, by the gentleman in attendance, as the joint was uninjured, except so far as its synovial membrane was concerned, to try to save the limb. The surgeon who was consulted entertained the same views with reference to injuries of this membrane, as those advanced in the paper before the Society. The wound was covered with lint dipped in oil, and a splint placed behind it to keep it quiet. The patient passed a quiet night, and on the following morning was free from irritation of any kind. In short, he perfectly recovered without the occurrence of any bad symptom, and has a very useful joint; he rides on horseback as well as before the accident, and is a good cricketer. The wound in this case healed by granulation, and the cicatrix exhibited several cartilaginous deposits with an evident attempt at the formation of a new patella. This case occurred in the practice of Mr. Edlin, of Cambridge. Entertaining the same views with reference to laying open the synovial membranes, as those advanced by Mr. Alcock, he (Mr. C.) trusted that the time was not far distant when it would be found to be good surgery to lay white swellings freely open, and to allow the limb to be restored to health by the secondary operation of Nature.

Sir B. Brodie had seen several cases in which the synovial membrane had been wounded, and the joint remained long exposed, yet the patients did well and the joints were restored to healthy action. In illustration of the correctness of the observation, that laying the synovial membranes freely open was often attended by no bad consequences, he would relate the following case:—An officer in the artillery suffered much pain and inconvenience from what appeared to be a loose cartilage in the knee-joint. At the earnest entreaties of the patient, he (Sir Benjamin) consented to remove it. On cutting into the joint, he was surprised to find a large fleshy tumour, about the size of the two last phalanges of three of his fingers. It was attached by a broad base to the inner surface of the synovial membrane. The limb was kept quiet for two or three days, the incision was then somewhat enlarged, in order that the base of the tumour might be reached with more facility, and the diseased growth removed. The wound healed by the first intention; severe inflammation, however, came on, attended by excessive distension of the joint, the cicatrix gave way, and the bed was literally deluged with synovial fluid. The flow of the synovia continued for three or four weeks, at the end of which time the wound healed, and the patient did well.

In another case in which he removed two loose cartilages from the knee-joint, adhesion took place, and the wound healed—inflammation followed, and the synovia escaped as in the last case, the discharge continuing for about a fortnight. The joint was completely restored to healthy function. Laying open the joint freely in these cases was always advisable, as mischief was likely to result from the collected fluid not having a ready means of exit from the joint. In white swellings there was generally some scrofulous disease of the bones, and he therefore did not anticipate any good results from laying the joint open, as proposed by Mr. Cooper. In children, however, in these cases, making an incision into the articulation, and afterwards supporting the patient's strength with steel medicines, was often successful in bringing the case to a favourable termination.

Mr. B. Cooper had intended to limit his observations to the disease in children.

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period, with purulent discharge from the injured part. The boy is now, however, recovering his health, and will have a somewhat useful limb.—*Reporter*, Lancet.

UNIVERSITY COLLEGE HOSPITAL.

CLOSURE OF THE RIGHT SIDE OF THE MOUTH—OPERATION.

M. H., aged 22, was admitted, Oct. 22, 1839, under the care of Mr. Liston. About a year ago she was knocked down in a quarrel, and a man jumped upon her with both his feet, causing an extensive wound of the right side of the mouth and upper lip, and a fracture of the jaw. She went to St. Thomas's Hospital; her jaw was put up

tight with bandages, and when it was undone the external wound and the right side of the mouth were found united.

23. Mr. Liston removed a triangular piece of skin, forming the cicatrix, from the right side of the mouth, dissecting it off from the mucous membrane of the mouth; this was then divided to the extent of the external wound, and water-dressing was applied until all oozing of blood had ceased. About five hours after the operation the mucous membrane was united to the edges of the skin by three sutures, and being turned out and longer than the external skin, formed at once a prolabium, and prevented the union of the incision.

23. The sutures have been removed, and the water-dressing applied.

28. The wound is healing; the mucous membrane of the mouth, which was turned out, has united to the cut edge of the skin, and prevented the internal part of the wound from being again united; the external part of the incision is slightly suppurating.

The patient has been doing well, and was discharged cured some time since.

REMARKS ON THE

VACCINATION EXTENSION BILL,

WITH SUGGESTIONS ON

LEGISLATION RESPECTING SMALL-POX.

To the Editor of THE LANCET.

SIR:—At a time when the subject of vaccination is not only better appreciated than it has lately been by the public, but is receiving the sanction of the Legislature, it may perhaps be allowable for me to occupy some small space in your Journal with the consideration of this important topic.

The question of public vaccination should, I conceive, always be considered under two distinct, but most important aspects; first, as to the extension of its beneficial operation, as a safeguard to the public; and, secondly, in a scientific point of view, for the further illustration and elucidation of those points, in its nature and application, of which we are at present ignorant. These two departments of the subject are of almost equal importance, inseparably united in an enlarged and enlightened view, and neither of them should be lost sight of in legislating.

In regard to the extension of vaccination, the experience of the last few years seems to have satisfied even the most indifferent of those who reflect at all, that some legislative measure is necessary; but I certainly must agree with you, that the exact nature of the measure required to meet the case is very imperfectly understood by the framers of the Bill now before Parliament.

1. The first radical defect in it, to which I shall allude, is the placing a matter of purely medical practice under the controul and superintendence of a non-medical commission. This evidently arises from a mistake, and a very important one, viz., the considering the question of vaccination in the same light as a case of common disease, for which all that is required is a proper degree of medical care and attention. If this were the case the matter would resolve itself into a very few simple elements, and the emergency might be very easily met, by the Boards of Guardians contracting separately for this particular species of medical attendance. But there really exists this wide difference between vaccination and common cases of illness, that in the one case the patient is already in trouble, out of which he is glad enough by any means to escape; but in the other you are to communicate a disease, to inflict an injury, for a prospective good. The practical difference is very great, since in the one case you have no prejudices, no apathy, no indolence, to overcome, therefore no difficulty in applying a remedy, which, on the contrary, is eagerly looked for and thankfully accepted; while in the other, rooted prejudices, invincible apathy and indolence offer a hindrance, which, from a considerable practical acquaintance with the subject, I am convinced will render the plan now proposed almost entirely nugatory.

I have now, for several years, in this city and neighbourhood, given out that I am willing, once a week, to vaccinate gratuitously all who offer themselves. The offer is accepted by some, but by a very small proportion of the poor population. In the case of an epidemic small-pox, the poor flock to the vaccinator to give them a late chance of escape from a danger, which they might almost certainly have avoided by an earlier application of the remedy. In my capacity of Secretary to the Vaccination Section of the Provincial Medical Association, I corresponded, on this subject, with a vast number of medical practitioners, and their testimony, almost universally, showed that the great obstacle to the extension of vaccination was the extreme apathy of the lower classes. Prejudice against the practice, in some cases, is the hindrance, and in my own experience I have not unfrequently met with it; but indolence and apathy to a danger not at the moment pressing, are the chief; and so rooted and obstinate are these, that they are sufficient to render any enactment utterly nugatory which does not provide some means for their removal.

I suppose, in this land of freedom, compulsion cannot be thought of; though, for my part, I cannot see why the idea of freedom should be incompatible with the compulsory prevention of a nuisance dangerous to the health, any more than one injurious to the morals. If a person, for the good of

society, is denied the liberty of appearing without decent clothing, why should he be permitted to be a continual focus for the development of a loathsome and fatal disease, which is really the case with every unvaccinated person? But if compulsion must not be thought of, what means have we of inducing parents to avail themselves of the blessings which vaccination affords to them? I can conceive none so effectual as a pecuniary reward, say 6d. for every case. Suppose, now, the cases throughout England requiring vaccination annually to be 840,000, according to your own calculation,* I may be near the mark in stating the paupers, or those who would be willing to accept a remuneration, at about half of the whole, that is, 420,000, which, at 6d. per case, would amount to 10,500*l.*, a sum which would be well laid out in securing so desirable an object as the universal adoption of vaccination. But other means of accomplishing the object might be tried, such as the offering a premium to the medical men who, out of a given population, should vaccinate the largest number. It is not necessary that the same means of attaining the desired end should, at the same time, be tried in every place; one plan might be adopted in one place, and another in another, till it was seen which worked the best; but unless the difficulty is met, enactments will be a mere dead letter.

Great stimulus to the cause of vaccination might be given by the adoption, at all charity schools and all public institutions, of regulations requiring every one, before entering them, to bring a certificate from a medical man of having duly gone through the vaccine process. This, if not enforced by law, could be very strongly and effectually recommended by public authority to the conductors and managers of schools and public institutions. But it is absolutely necessary in these cases to require a medical certificate, since the mere *ipse dixit* of the relations of the child are by no means a sufficient security in a question involving a general principle of national security: of this I have had repeated proofs.

2. The next objection that I entertain to the Vaccination Bill as it now stands, consists in the want of a clear definition of the duties of the vaccinator, and in the injudicious nature of the instructions, when they are intelligible. It is left to the discretion of the guardians of the poor whether the contract shall include a vaccination of all that apply for it every week, every month, every two months, or every three months; all that they are bound to, is, not to allow an interval of more than three months to elapse. Now, a little consideration will show, that this regulation is both too much and too little. The object of a district vaccinator should be to keep up a continuous supply of lymph by his own cases, which he can only do by weekly vaccinations, and which will have this great advantage for the public, that as the children of the district arrived at the proper age for the operation, an opportunity will offer every week of receiving the protecting benefit. But in very few country districts during the winter can it be expected that a weekly continuous supply should be kept up. A certain portion of the coldest season in the year, not generally of more than three months' duration, may be advantageously allowed to pass, without any vaccination at all in such a situation; as the difficulty of keeping up the supply is then so great, that nothing but disappointment and vexation can be anticipated, except in districts comprising a much larger amount of population than the majority of those districts in the country which the Act contemplates. Therefore, I repeat, on this point, the Bill attempts both too much and too little.

3. The third objection which I would offer is, that no sufficient return of the cases vaccinated is required of the vaccinator. He is called upon, at the next meeting of the guardians, to report to them the number of cases vaccinated.* Now, that such a return must be almost valueless, must be quite evident when we reflect, that the mere act of inserting the ichor is really but a preliminary step, after which the case may go on to occasion a perfect security, or may totally fail, either of which may occur under this mere pretence of a return, without the superintendent Board being a whit the wiser. Indeed a return, in any degree correct or useful, is prevented by the instructions of the Act, which requires that a return of the number vaccinated shall be made to the next meeting of Guardians. Now, if this means the next after the order given, or the next after the vaccination, as the boards meet once a week, in either case the completion of the case cannot be reported; so that the little information professedly procured cannot be trusted to, and is therefore valueless. That an efficient return of each case, its progress and termination, is not now obtained, may be gathered from the fact, that according to the acknowledgment of one of the vaccinators of the National Vaccine Establishment, not one in twenty is even seen by them again after the performance of the operation. That a complete report of each case is highly desirable, and should be, as far as possible, secured by any contemplated legislative measure, must be too evident to need a proof.

4. The last observation which I shall now

* See LANCET, April 25, 1840, p. 163.

* I here quote the words of the Act as printed in the "Dublin Medical Press," for March 25th. I have not a copy of the Act by me.

make under the head of the practical part of the question, is to show the limited extent to which even the imperfect provisions of the Bill can be applied. As its operation is intimately connected with the machinery of the New Poor-Law, all those unions which have not yet put themselves under the jurisdiction of the Poor-Law Commissioners will be excluded from any benefit in this Act, and this, in a measure immediately connected with the public health, ought not to be overlooked. Then, again, this Act has been framed, as if the only persons requiring its assistance were paupers, since, from its very constitution, its provisions can only be extended to them; but the fact is, that a large proportion of those whose apathy prevents them from foreseeing danger and providing against it, consists, indeed, of the lower class, but of those who are not paupers, and who, therefore, require inducements different from those which the Poor-Law Guardians can offer them.

I must now say a few words on the subject of vaccination, in a scientific point of view, as a branch of medicine as yet but little understood, and demanding, under this head, that consideration from our legislature which it certainly has not yet received. Is it not a disgrace to this country, boasting as it does of being the natal soil of this invaluable discovery, that after 40 years' experience of its value, comparatively little has been done *here* for the elucidation of those numerous points connected with the nature, the affinities, the varieties, the statistics of the cow-pox, which yet remain undetermined? What has been done by us to settle the value of vaccination? to determine the value of the cicatrix as a test of security? to ascertain the relations and affinities of the protection pock with other eruptive diseases of men or cattle? to settle the question of the duration of the protective power, and of the degeneration of the pock by transmission through the human body? These questions and many others are still requiring elucidation; and must we ever be obliged to look abroad for materials upon which to work? must we look to foreigners always for instruction, when the means and opportunities may be so abundantly supplied at home? Of the several important questions connected with vaccination which have been effectively studied since the days of Jenner, how few have been even investigated in this country! It is true the history and literature of the subject have been most ably elucidated by the biographer of Jenner. And, lately, to the great credit of Mr. Ceely, the true nature and affinities of the disease have had much light thrown upon them; but, with these honourable exceptions, we may almost say, nothing has been done in this country in an inquiry which ought to be dearer to us than any other nation; and I do trust that a law will not be allowed to pass without some express and sufficient provision for the most full and complete investigation of every branch of so interesting and important an inquiry.

We now come to the *secundo modo*; and all that I request for the suggestions which I am about to make, is a fair consideration. First, and at the root of the whole matter, the supervision of the machinery for the extension of vaccination must, for the reasons before stated, be medical. It is utterly impossible that either in a scientific or in a practical view, the subject can have justice done to it without this. To provide medical superintendence, either let there be a medical Poor-Law Commissioner in whose person shall merge all the authority and functions of the present useless National Vaccine Board; or let this board be entirely remodelled, according to Dr. Gregory's suggestions, the whole regulation and control of vaccine machinery throughout the kingdom being put into their hands. I conceive that one director, with one or two secretaries, would be quite equal to the performance of all the duties of this important office. Let him be appointed at a salary sufficient to remunerate a man of superior ability, intelligence, and zeal, not under the idea that name and station are to confer honour and weight upon the cause which he espouses, but that he has most important practical and scientific duties to perform, which will require all his zeal and all his energies to fulfil. The day is quite gone by, when the practice of vaccination calls for the sanction and support of names; the class of society who would be influenced by them are universally sensible of the value of the boon, and they are always protected by it in early life. The class of society which neglects it is, below the influence of the names of heads of the medical profession, and are to be reached only by other means more appropriate to their feelings and understandings.

But the framers of the present Bill may perhaps be said to run into the other extreme, since a matter of a purely medical and scientific character is to be entrusted to the superintendence of a board of farmers and tradespeople. This—the placing the operation of the new Bill in the hands of non-professional superintendence—is so glaringly contradictory to common sense, and so utterly destructive of the great and good object sought for in legislating on the subject, that I cannot but hope that, before it is too late, the law will be put upon its proper footing. In seeking to extend the practice of vaccination, it should be remembered that the men collecting together the largest number possible of unvaccinated persons, to have their arms pricked with a lancet is not accomplishing all that is required. Every such unprotected person must go through a delicate and important process of

disease, which must occupy at least a fortnight in its progess, before it can be decided to be quite satisfactory, and during that period the individual is liable to suffer interruption of the sanatory process from various causes, sufficient to place him in a very doubtful position, to say the least, as to future immunity from small-pox. Therefore, the disease, to give the satisfactory security which is desired, and which should be required as far as possible by the Bill now pending, should be examined, and, to secure this watching and examination, should be reported in a certain given number of the stages of its progress. And who, I would ask, are competent to the task of receiving and checking these returns, and rendering them available to the purposes of medical science, but medical men? To what purpose is it to give, according to the wording of the Act, a report of the vaccinated? How would science be forwarded, or correct practice be secured by the statement, that since such a day 250 or 2000 persons were vaccinated? Would it not be a saving of time and trouble to leave the whole responsibility as it now is, with the boards of guardians, who are at liberty at any time to compel the union surgeons to vaccinate the paupers?

But to proceed with the details of my proposed plan. Having organised an efficient central board, I would appoint, throughout the kingdom, districts, and to each of these districts a vaccinator. These districts should be large enough to be subdivided into three or four parts, in *the centre* of each of which divisions should be a station; thus the vaccinator could give his attendance to these stations on different days of the week, and might thus take the vaccine charge of a district of considerable size. At the time of vaccination he should be required to report certain given particulars of each case, and the fee appointed for each case should not be allowed, or only a part of it, if the report of the case is not continued, at least to the eighth day after vaccination. To encourage a spirit of emulation, or the correctness and fulness of the reports, let annual prizes be publicly awarded to the most meritorious vaccinators. This will be an inducement to the individual vaccinator to pay particular attention to, and to give a full report of all the anomalies and varieties that he may meet with, as well as every circumstance which may be calculated to throw light on the subject. With a well-organised plan of operation, and a faithful system of reports, what a valuable mass of statistical information would be soon collected! and how much light might we not thus throw upon most important subjects, the investigation of which we are at present content to leave in the hands of others!

I would suggest that the inoculation of small-pox shall be forbidden under a heavy penalty, except by medical men, whose good sense and right feeling would be a sufficient guarantee against making it a general practice, and who might yet meet with occasions in which they would feel justified in departing from the general rule.

In conclusion, I would only add, that it would afford me great satisfaction if I might hope, that any thing I have now said would throw any light upon a subject, interesting to every individual, though, I fear, not sufficiently studied or understood by the framers of the Bill now in progress through Parliament. So convinced do I feel of its insufficiency for the object in view, that I would say, rather than have this, let us remain as we are, until the measure of general medical *reform*, which must ere long remodel our profession, shall enable us to place vaccination on the footing which its importance certainly merits. I am, Sir, &c.

A. T. S. Dodd,
Secretary to the Vaccination Section of the Provincial Medical Association.
Chichester, May 2nd, 1840.

RESTRAINT OF INSANE PERSONS.

To the Editor of The Lancet.

Sir:—Your correspondent, Mr. Hill, appears determined to urge me into controversy, and obligingly commends my candour, for which I thank him; I am, however, sorry I cannot quite concede to him the same complimentary admission.

In my former letter, I stated "I had carefully questioned the patients, both between the paroxysms and after recovery, and had found them, with very few exceptions, unhesitatingly prefer restraint to the terror and irritation of surveillance;" to which Mr. H. replies, "the whims and perverted instincts of lunatics are notorious, and ought not to be indulged." I think not either, yet I cannot but incline to the opinion, that had such testimony been in favour of Mr. H.'s system, he would have maintained, as I do, that the preference, even of a lunatic, in a matter affecting his own personal feeling, should be respected. At any rate, he is not likely to choose that which is most painful to himself; but the deliberate opinion of convalescent and cured patients, on such a point, is of the first importance.

If perfect liberty be given to a dangerous lunatic, Mr. H. says, "he soon exhausts his mental irritability." How soon? In nine cases out of ten just so soon as the physical powers sink under his frenzied exertions, or, in other words, he ceases to vociferate, because he is so hoarse he can scarcely speak; he ceases to kick and strike, because his arms and legs are powerless, and covered with bruises; and he lays his weary head on the pillow, tranquil from sheer exhaustion.

I should judge Mr. H., in his praiseworthy zeal, has never tried any system but his own. The word exhaust appears ill-adapted to our object. We have to allay irritation, to soothe, to tranquillize. Now I maintain that the liberty which the poor, distracted creature only knows how to abuse, tends to keep up the mental irritability.

Mr. H. observes, that "accidents will sometimes happen in a lunatic asylum, and attendants will be occasionally irritated into striking a patient; but such accidents will be found much more numerous where restraints are most numerous."

Facts do not appear to bear out this statement; I think they rather tend to prove the very reverse.

In some public institutions with which I am acquainted, the instances of servants discharged for maltreatment are rare. In this asylum, during ten years, only two have been dismissed on this account.

The novel idea of awing a lunatic into submission, by the presence of an attendant so fearfully large, that he dares not even attempt competition, and that large men are better tempered than little ones, is curious enough. For my own part, I have never found anything more than good common sense and sterling principle as indispensably requisite in servants; I believe we shall be better aided in our endeavours by the judicious assistant, possessed of that peculiar tact which can be acquired only by a practical acquaintance with the treatment of the insane, whatever his stature may be, than by the presence of a whole host of giants.

From a multitude of cases, illustrative of the value of judicious restraint, furnished by the journals of this institution, I select one which may be considered as a sample of the rest.

Some years ago U. D. was admitted into this asylum; although he had received a liberal education, and moved in a rank of society much above that for which this place is destined, irregularities and misfortunes had brought him to the condition of a pauper. He was a young and handsome man, full six feet three inches in height, and proportionably athletic, and well-made; previous to his admission he had been confined a year in two different lunatic asylums, from both of which his removal was hailed with joy, and he had made some desperate attempts on the lives of his relatives. On his admission his ravings consisted of a volley of obscenity and blasphemy, whilst every one who came in his way, windows, furniture, &c., were objects of his violence. With the concurrence of my able coadjutor, the visiting physician, the sleeves were placed on him;* he was fastened into bed, and light totally excluded from his apartment (I suppose Mr. H. would hold up his hands in astonishment). From the flushed countenance, and the full action of the carotids, leeches were applied to the temples, gentle aperients and sedatives were administered. In a few days the irritability subsided; but light, sound, and the presence of any one, renewed it. In this state he remained a month, and was going on favourably; he slept better, and could converse coherently for a short time, when the visit of a relation renewed the attack in all its violence, and we had the same ground to go over again. In a short time the light was admitted by degrees; he spoke rationally, but with some excitement of manner; was unrestrained, and allowed to walk alone in the gallery. In five months he was perfectly cured, and remembered, with extraordinary distinctness, nearly every circumstance that had occurred, and apologised for his conduct to the Visiting Physician and myself in a manner truly touching. He explained to me the effect that his own efforts, light, and sound had conspired to produce in keeping up the excitement, and considered the salutary restraint to which he had been subjected the cause of his recovery.

I am happy to add, he has become a highly-respectable member of society; he has prospered in the world, fills with credit the station of a gentleman, and has twice visited the asylum since his liberation.

I know so well the difficulties which encompass the path of the superintendent of a lunatic asylum,* the liability of his best exertions to misrepresentation, his exposure to attacks emanating only from feelings of personal malignity, and motives of which every honest man would be ashamed; the petty cavillings and opposition he is often called to undergo from those who wrap themselves up in fancied notions of their own excessive wisdom, and practically know nothing; whilst censure, the lowest exercise of the understanding, is considered as fairly employed on him, by *would-be* authors, devoid of talents capable of any higher range; and feeling this, it is with delicacy I allude to the Lincoln Asylum. Without particularising my motives I would merely remark, that the very frequent change of officers and servants in that institution, does not speak much for the working of the system.

I would say of a public institution as of a private family, where such changes are unusually frequent, your fault is less in your men than your system. Look to it that

* I was not without my suspicions of a habit which would have counteracted all our efforts.

* Who in such a situation has not felt the full force of Esquirol's exclamation,—*Que peut espérer un médecin qui a toujours tort quand il ne réussit pas, qui a rarement raison quand il a du succès, et qui est poursuivi par les préjuges même dans le bien qu'il a obtenu?*

your mainspring be not wrong; you are perpetually introducing novices, by which the interest is broken, and confidence destroyed, and no sooner do they become initiated in the discharge of duties, the most difficult to which man or woman in any station of life can be called, than the benefit of their experience is lost to the patients, and other novices take their place.

The superintendent of a lunatic asylum requires to have his zeal tempered by extraordinary prudence, his exertions supported by extraordinary coolness and patience, otherwise he will only increase his difficulties until they are altogether insurmountable.

I have merely to say, in conclusion, that when, instead of confusion and discomfort, officers ever going and coming, and numerous servants discharged for maltreatment of patients, we shall find those institutions which boast the total abolition of restraint return the largest proportion of cures, and shall have sufficient evidence that the unfortunate inmates are healthier and happier than any others; then, and not until then, will it be time for me, and a host of my respected medical brethren, to acknowledge the system is not a piece of contemptible quackery—a mere bait for the public ear—but really a valuable improvement in science, for which the originators well deserve from the medical profession, and the insane world at large, the warmest thanks and the most profound respect.

I have to apologise for trespassing at such length on your useful columns; the importance of the subject must be my excuse. I have the honour to be, Sir, your obedient and faithful servant,

C. C. Corsellis, M.D.

Lunatic Asylum, Wakefield,
April 24th, 1840.

OPERATION FOR SUBCLAVIAN ANEURISM.

To the Editor of The Lancet.

Sir:—In The Lancet of May 2nd I observe some remarks on the subject of ligature of the subclavian artery; in which the writer states his belief, that in the cases of aneurism of the subclavian, external to the scalenus, operated on by Mr. Liston by ligature of the vessel internal to the muscle, the operation should have been performed where the artery passes under the muscle.

If the author had had an opportunity of examining cases of aneurism of the third part of the course of the artery, and commencing immediately external to the scalenus, he would have found that an incision over this muscle, and the dissection to expose it, could not be made without wounding the sac of the aneurism. The space between the tumour and the internal jugular vein does not exceed a quarter of an inch; an operator is ignorant of the thickness of the parietes of the sac, and I defy the most skilful to pass a ligature round the artery, so closely in contact with so large a tumour, as the one last recorded in The Lancet, without cutting into the sac.

It is in cases of aneurism in the axilla, extending very high up, that the operation under the scalenus muscle has succeeded; but I think few would be sufficiently hardy to propose such an operation who had once seen and examined in the living body the relative position of the parts in aneurism of the third part of the course of the vessel. In the two cases operated on by Mr. Liston, the operation internal to the scalenus was the only one that could be undertaken. Only one case of ligature of the subclavian in this situation had been recorded; and as in operation on other arteries many of the first cases were unsuccessful, it was hoped that another favourable trial might place this among the admitted operations in surgery. I am, Sir, your obedient servant,

An Old Dresser.

London, May 5, 1840.

POTASSA FUSA IN STRICTURES OF THE URETHRA.

To the Editor of The Lancet.

Sir:—Although two months have elapsed since the discussion to which the annexed paper refers was published in your Periodical, you will oblige me by inserting it in one of your earliest Numbers. My attention was not called to the subject until a day or two ago, and although late in my notice of it, I cannot forbear doing so, in justice to the memory of my late respected father, whose talents and benevolence are still well remembered by many. I am, Sir, your obedient servant,

Thos. Whately, M.R.C.S.

Berkhampstead, April 22nd, 1840.

In the notice of the proceedings of the Westminster Medical Society, published in The Lancet of the 22nd of February last, I perceive that Mr. Robert Wade read a paper on the application of the potassa fusa to strictures of the urethra, which paper, from its leaving unnoticed the beneficial results obtained by others from this practice, would lead any cursory reader to suppose, that he (Mr. Wade) was the first introducer of it, and that it was a new and original appliance in his hands. Mr. Wade omitted to mention the name of my late father, who was the first who proposed and applied the caustic potash to strictures of the urethra, and published a work upon the practice, the third and last edition of which was published with many additions in 1817; it was first published in 1805. Mr. Abernethy used to re-

commend it publicly to his pupils, as well-deserving their attentive perusal.

In the second chapter of the third edition, the mode in which the potassa fusa should be applied, the rules guiding our resorting to its use, the cases in which benefit may more particularly be derived from it, and the various circumstances which may forbid its employment, are all fully and practically explained; and there is much similarity between parts of this chapter and Mr. Robert Wade's paper. In another chapter is also pointed out, very strongly, the occasional and not unfrequent ill-consequences arising from the use of the nitrate of silver; the distinction between the slough which is produced by the nitrate of silver, and the mere abrasion of the caustic potash, its saponaceous compound, and its mild stimulating operation upon the thickened, inflamed, and irritable membrane is particularly dwelt on. With regard to the saponaceous compound produced, when the first edition of my father's work was published in 1805, the editors of the "Imperial Review" made some trite observations upon it, and spoke of it in terms of ridicule.

In Mr. W.'s paper there are one or two deviations from the practice originally recommended, which may merit notice; it was my father's care never to reapply the caustic, until the irritation arising from its first use was entirely subsided, allowing an interval of five, six, seven, or even more days to elapse, before he ventured again to introduce it into the urethra; whereas Mr. Wade recommends its application every second or third day. Those who wish for more information upon the subject I must refer to the work itself; and I should not now have brought it before the notice of the public, did I not feel myself bound to render justice to the memory of one whose talents adorned the profession he belonged to.

DUBLIN MEDICAL POLITICS.

REPLY TO THE LETTER OF "ALETHES."

To the Editor of THE LANCET.

SIR:—I have read with much regret a letter in THE LANCET, of April 18th, dated from the "United Medical Club," Dawson-street, and addressed to Drs. Jacob and Maunsell, the able and talented editors of the "Dublin Medical Press," which reflects in no measured terms upon those gentlemen; and with your permission I will set the readers of THE LANCET right upon a few of the topics which have been touched upon by the writer.

"ALETHES" (for so he very inappropriately signs himself) commences by declaring that he is a reformer, and that it is a calumny of the medical press that the United Medical Club is an anti-reform Club. The reasoning and the arguments which he has brought forward to prove his point are certainly curious, viz., "that at the Medical Club we have not only an equal supply of liberal and conservative papers, but the former are in at least as equal demand as the latter; the 'Chronicle' is as much read as the 'Times,' the 'Dublin Evening Post' and the 'Freeman,' as 'Saunders' and the 'Evening Mail;' and not only is all this true, but we even condescend once a-week to peruse the pages of the 'Dublin Medical Press;' ergo, the United Medical Club is not an anti-reform Club."

Now, Sir, I will only bring forward two facts upon this point, and I will leave it altogether to your readers to decide whether deservedly or undeservedly the United Medical Club has been dubbed an anti-reform Club.

1st. At the preliminary meeting called to form the Club, the members of the Royal College of Surgeons in Ireland, who were deputed to move and to second resolutions, were gentlemen who had been most active and energetic in opposing the liberal measures brought forward at the Congress held last May in Dublin.

2nd. Some gentlemen who had taken a very prominent part as medical reformers were *intentionally* excluded from that meeting; and when Dr. Apjohn moved that the list should remain open for a week or fortnight, to give to every respectable member of the profession residing in Dublin the opportunity of coming in as an original member—in other words, without a ballot; it was negatived by a large majority. I well remember Mr. Harrison's speech on that occasion, and I dare say he does not forget, or "ALETHES" either, the castigation he received from Mr. Carmichael. In consequence of what occurred at that meeting many of the most respectable members of the College of Surgeons declined the honour of becoming members of the "United Medical Club."

"ALETHES" next indulges in some remarks upon occurrences which he states to have taken place at a meeting of the College of Surgeons: in answer I will only say, that I am a pretty regular attendant at the College meetings, and I certainly never heard the expressions used which he has put into Dr. Jacob's mouth, nor have I the most distant idea to whom he alludes when, addressing Dr. Jacob, he says, "Do you not remember how you worked, might and main, you and your myrmidons, to smuggle in a personal attack against three or four of your brethren," &c.; nor have I the least recollection of anything of the kind occurring.

"ALETHES" next asserts that the Librarian of the College of Surgeons "sacrifices the interests and convenience of its members to serve his friend's interest," by not admitting the "Medical Press" in weekly numbers into the library; and he throws out the in-

sinuation that one of the proprietors of that journal was the individual who foolishly excluded THE LANCET from the library some years since. Now, Sir, "ALETHES" must know that the Librarian of the College has not the privilege of taking in or rejecting books at his pleasure; this duty rests with the Library Committee; and, with respect to his insinuation against Dr. Jacob, no one better than "ALETHES" knows, that the gentlemen who carried that measure are now prominent members of the United Medical Club; and that, in becoming their ally and advocate, it is he who, to use his own elegant expression, has "jumped Jim Crow."

Growing bolder as he proceeds, "ALETHES" next threatens Drs. Jacob and Maunsell with expulsion by his party from their professorships in the College of Surgeons, unless they give up their "disagreeable exposures," &c. This may be "Club law," but certainly is a curious way to meet argument. Its conception reflects the highest credit upon the genius of "ALETHES;" and the manner in which he advocates it is calculated to shed a strong light upon the liberal feelings that pervade the party of which he aspires to be the organ, and of which he appears to wish to be considered the champion, but of which he is in reality only the tool.

There are some other topics in "ALETHES'" "Familiar Epistle" which I would touch upon, did I not fear to encroach too much upon your valuable space. I beg to subscribe myself,

A MEMBER OF THE ROYAL COLLEGE OF SURGEONS IN IRELAND.

Dublin, April, 1840.

LETTER FROM DR. MAUNSELL.

To the Editor of THE LANCET.

SIR:—As you have thought proper to open your pages to anonymous libels affecting my character, objects, and property, I presume you will not refuse insertion in your next Number to this brief note. All I desire to make known in it, is, that both the letter signed "ALETHES," published in THE LANCET of the 18th ult., and that signed "AN INDIGNANT LICENTIATE OF THE DUBLIN COLLEGE," published in THE LANCET of the 2nd inst., contain several statements regarding me which are falsehoods, and that the writer, whoever he may be, must know them to be such, and would not dare to make them in my presence. Your obt. sert.,

H. MAUNSELL.

Dublin, May 4, 1840.

DISLOCATION OF THE HUMERUS.

Cure of an Old Dislocation of the Humerus by Division of the Pectoralis Major, Latissimus Dorsi, Teres Major, and Teres Minor Muscles.

BY PROFESSOR DIEFFENBACH.

HERR T——, a large landowner, upwards of thirty years old, had his right shoulder dislocated two years ago by a fall from his horse; the nature of the accident was not at first recognised, and afterwards, though all all the usual means were adopted by several surgeons, the bone could not be returned to its place. The patient, therefore, came to Berlin; he was of a gaunt, powerful form, with a pale complexion and but little fat, and his muscles were strong and prominent under the skin. The injured right shoulder was an inch higher than the left; the acromion formed a sharp angle; on the outer side the shoulder was deeply hollowed, and the scapula lay flat. The right arm was thinner than the left, and stood out far from the body. The head of the humerus lay on the anterior side of the chest, close to the clavicle, and two inches from the upper portion of the sternum. The patient had a constant sensation of cold in the limb, and the creeping which he had formerly felt had ceased. The pulse in the right radial artery was rather weaker than that in the left. The limb was useless, and only the hand could perform some slight actions.

By moving the arm in different directions, severe pain was produced in the part where the head lay, surrounded by a thick wall of dense ligament, into which it had worked itself. In drawing the arm outwards from the body, the pectoralis major, latissimus dorsi, teres major, and teres minor became tense with extreme pain. The last three of these muscles felt hard and tense, even when the arm was not drawn outwards. An attempt to reduce such a dislocation without dividing these muscles and the new joint would have been extremely dangerous, and had been found impossible; but (says the Professor) I anticipated success from the subcutaneous division of every thing that resisted me.

The patient being placed on the table, with one folded sheet passed under the right axilla, and held by six assistants, another fastened round the right hand and held by six more, and a third round the upper part of the humerus held by three more (in the manner usually adopted by me in old luxations), the two first sets of assistants were ordered to pull against each other. I next bade them make a slowly-increased extension, and then stop; I then passed a small scythe-shaped knife through the skin, and divided the most tense portion of the pectoralis major close to its tendon, which yielded with a cracking sound. I then again intro-

duced the knife at the posterior border of the axilla, and divided one after the other the latissimus dorsi, the teres major, and the teres minor. All these muscles gave way with a cracking noise, which was increased by the resonance of the chest. I next passed my knife into three places by the head of the humerus, and divided in a similar manner, under the skin, the dense and hard false ligaments which surrounded the new joint, and, lessening the extension, I loosened the head by a few rotations.

A powerful extension was now again commenced on both sides, and the three assistants behind the patient pulled suddenly while I conducted the humerus towards the joint into which it slipped on a sudden, without again springing out. One shoulder looked now just like the other. The thorax, the shoulder, and the arm were enveloped with bandages which were soaked with paste, and after a few hours they all became dry and hard, and prevented any motion of the right side.

The bleeding from the wounds, which were not larger than those made in phlebotomy, was at most a few drops. No unpleasant symptoms ensued, and the patient suffered even less than the majority of persons in whom I have reduced old dislocations. On the ninth day I took off the bandage; both shoulders had exactly the same level and form, and there was neither swelling nor pain. The punctures in the axilla had completely healed, and scarcely a trace of them could be found; there was no collection of blood or pus. The arm was already capable of motion, and its actions were far less hindered than they are sometimes after the reduction of a recent dislocation; because in them there is often for a long time a sensitive contraction of the unnaturally stretched muscles, while in this case the division of the resisting muscles and of the newly-formed joint not only rendered the reduction possible, but at the same time diminished its after consequences. The limb is now again restored to perfect utility.—*Medicinische Zeitung*, and *Foreign Medical Review*—*Dec.* 1839.

THYMIC ASTHMA.

The following cases, of a disease which German writers denominate Thymic Asthma, we extract from an American Journal. They may serve as a point of comparison with the cases which have, already, been published in various numbers of The Lancet:—

Case I.—*Congenital Cough; Repeated and increasing Paroxysms of Strangulation; Sudden Death. Enlarged Thymus Gland; Hypertrophy of the Heart.*

March 12, 1838. An infant boy, seven months old, was fat and stout, although of late somewhat neglected by the mother, who could nurse him only once a day, being obliged to work away from home. From birth he had been subject to slight cough, and to attacks of strangulation excited by the cough. These attacks had of late grown more frequent, occurring five or six times during the twenty-four hours; *less frequently however at night.* The child would grow blue in the face, struggle for breath, and recover itself again: each paroxysm continuing about a minute. During the interval, the child was perfectly well, except the cough: no dyspnœa; no gastric or intestinal derangement. Last evening the child was sitting upon its mother's knee lively and well, when one of these attacks of strangulation occurred, and in a minute it was dead.

Post-mortem Examination, Fourteen Hours after Death.—Lips violet; large livid spots about the lower portion of the back, and on the thighs; considerable rigidity of the limbs. Body well-formed, and fat.

On removing the sternum with the cartilages of the ribs, the whole space beneath was found occupied by the *thymus gland*, evidently hypertrophied. It was pyriform in shape, with its smaller extremity attached to the anterior portion of the trachea, commencing about midway between its laryngeal extremity and its bifurcation, and extending down in close connection with the fibrous coat of the pericardium so as completely to cover the great vessels and the heart, except a line or two near the apex, and touching the diaphragm. Its length was four inches (French), its greatest breadth three inches, its greatest thickness, which was at its middle, three quarters of an inch, or one inch: it was divided by a long fissure into two lobes; its colour and consistence were natural. The phrenic nerve on one side crossed the superior portion of the enlarged gland, that of the other passing under and to the side of it; one was noticed to be much larger than the other. The par vagum was not at all implicated. The heart, after raising the enlarged gland, was noticed to be also larger than natural: and on opening the pericardium, which was healthy and contained no fluid, this enlargement was found to reside entirely in the left side of the organ, the right side appearing as a sort of appendage to the left. Both auricle and ventricle were considerably hypertrophied, and perhaps slightly dilated; the different orifices were free: the cavities contained no blood, but it was noticed, when the great vessels were divided in removing the heart, that a large quantity of dark-fluid blood was discharged.

The fauces, the larynx, the trachea, and the bronchi examined through the divisions of the second order, were perfectly natural. The lungs were of a pale flesh colour, and, in every part, dense and firm, crepitating

very little on pressure, and when cut into discharging a little reddish serum containing no air-bubbles: on attempting to tear them they were found to retain their natural resistance; they were not at all granulated.

The stomach contained a considerable quantity of curdled milk: its colour and structure were natural, except that its mucous membrane was a little softened in the great *cul de sac*. The glands of Peyer in the small intestines were hypertrophied, especially near the ileo-cœcal valve, and the mucous membrane covering them, as well as around them, perhaps a little softened. The mesenteric glands were generally enlarged. The large intestines were very much distended with gas, and contained a considerable quantity of healthy fæces; the mucous membrane was much softened, and its mucous follicles very distinct. The other organs in the abdomen were healthy. The brain was not examined.

CASE II.—*Pneumonia, rapidly Fatal (in less than Twenty-four Hours); Death without Strangulation; Enlarged Thymus Gland.*

April 13, 1839. An infant, aged three months and two weeks, had never been sick a day; had never experienced any difficulty of respiration, until the time of the present attack. On the night of the 11th ult., the mother noticed that the child was feverish and restless, having had a trifling cough for two days previously. The child on the 12th lay quiet, and seemed disposed to sleep, with no apparent quickness or obstruction in the respiration (this was carefully examined); only the alæ nasi moved. There was no febrile excitement, except that the pulse was accelerated, but small. The countenance and lips were not livid. Six hours after this the child died. About twenty minutes before death the mother noticed a "drawing" in the respiration, and a convulsive movement of the shoulders, and that the lips and forehead were blueish. The close of life, however, was tranquil and without symptoms of strangulation, the child appearing to be sensible until near the last.

Post-mortem-Examination, Twenty Hours after Death.—Chest well formed. A considerable quantity (a teacupful) of bloody serum in the right pleural cavity, which however did not much compress the lung; pleura, at least that portion of it covering the lung, natural. The inferior and middle lobes, and the lower third of the superior lobe of the right lung, presented the appearances of pneumonia (lobular) in the first and second stage. The lower lobe of the left lung, especially the posterior portion, was in the same condition, but less advanced, and less extensively affected. The superior portions of both lungs were free from congestion, but crepitated very little.

Larynx natural: slight redness in the trachea, increasing in its lower portion, and still more marked in the bronchi of the first order; while the smaller bronchi, even those passing directly into the portions affected with pneumonia, were, with one exception, perfectly natural.

Heart natural; contracted; free from blood, as were also the great vessels.

The *thymus gland* evidently enlarged; its length three inches six lines (French); its greatest breadth one inch eight lines: its thickness about half an inch. Its shape was pyriform, and bifurcated at its superior extremity. It was attached above to the trachea, extending upwards to half an inch from its junction with the larynx; below it was loosely attached to the pericardium, lying upon the great vessels, and covering two-thirds of the body of the heart: neither the phrenic nerve nor the par vagum were compressed by the enlarged gland.

The stomach, liver, and spleen were healthy. The intestines and the brain were not examined.

LATERAL DEVIATION OF THE SPINE.

BY M. BOUVIER.

THEY who maintain that contraction of the muscles plays the chief part in the greater number of lateral deviations of the spine, and that these deformities should in consequence be treated by tenotomy, are required to prove the affirmation of the three following positions:—1. That in the majority of lateral deviations of the spine, as in deformities really produced by muscular contraction, the muscles corresponding to the concavity of the curvature are rendered extremely tense, when an attempt is made to straighten the spine. 2. That the permanent retraction of these muscles is not preceded in the greater number of cases by deformity of the spine. 3. That section or excision of these same muscles on the dead subject causes total or partial disappearance of the curvature.

[M. Bouvier decides each of these points in the negative; and hence concludes that curvatures of the spine are not, in the majority of cases, capable of cure by the plan recently advised and practised by a rival orthopœdist of the French capital. The point at issue can, however, only be fairly settled by the results of the operation on the living subject.]—*L'Expérience*, No. cviii. July, 1839; and *Brit. and For. Medical Review*, April, 1840.

DISEASES PREVAILING AMONG COWS AND OXEN.*

A CORRESPONDENT, a medical practitioner, who resides in Robert-street, Chelsea, has forwarded to us a communication, from which we make the following extract:—

"A disease has been raging to a very great extent for more than four months past, especially amongst cows and oxen, in London and its environs. Only an allusion to it, at present, I think, has been made in the public journals, but it appears to be still very prevalent. A report should be made to the Legislature respecting it, that steps may, without delay, be adopted to suppress the sale of any milk, or flesh, of such beasts as are diseased, and attempts made to discover its cause or prevention. I accidentally found it out by discovering a peculiar taste in some milk whilst at tea; the smell and taste were so disagreeable that my family and myself were obliged to have the cups of tea, to which a little of the milk had been added, removed. The following morning I had some conversation with the dealer who had left it, and he told me that many of the cows, where he obtained his milk, had the prevailing distemper, and had been physicked for it, but before the action of the medicine had ceased, their milk had been sold to him. I have recently been informed, by several highly respectable butchers, cow-keepers, and milk-dealers, that the disease is still very bad, and that some cow-keepers about London have had many, as from 20 to 30, of their cows affected by it, and that numbers of oxen are to be seen in Smithfield Market, &c., in a similar state. Last week a man was driving a bullock along the street in which I reside, when it was so exhausted by the distemper as to prevent it proceeding, and it was, in consequence, killed in my butcher's slaughter-house, for its owner. I have heard the disease called *murrain*, the *rot*, &c.; and also have been informed that it prevailed much more than a century ago, in a milder form; that it then affected the fore feet only, but now it affects all the feet, and also the tongue in most instances, and that the beasts appear in perfect health when they leave the graziers, and continue so until they reach within ten or twenty miles of London; and that any cow-keeper who purchases a fresh cow at market, is almost sure, as soon as it reaches home, to have all his cows affected by the disease. The disease exists in country places, and on the Continent, though not to the same extent as in London and its neighbourhood."

* If our correspondent will refer to the late numbers of the "Veterinarian," edited by our talented and amiable friend Mr. Youatt, he will find the "epizootic disease" amply discussed; and for more intelligence on the subject we would call his attention to the next Number of THE LANCET.—*Sub. Ed. L.*

MULLER'S ANALYSIS OF DIABETIC BLOOD.

To the Editor of THE LANCET.

SIR:—The changes that the blood undergoes in diabetes are evidently very great, although it has not been successfully analysed in this country or abroad. Hitherto the most celebrated chemists that have made experiments on it have been unable to detect sugar in diabetic blood; and that it contains sugar has been many times contradicted, because sugar has not been procured from it. It has, however, for some time, occupied the attention of M. Müller, the celebrated physiologist, and has been subjected to experiments and research by him to ascertain its composition and the changes it undergoes. I beg to forward to your valuable Journal the following results of experiments on diabetic blood, made by M. Müller, and published in the "Philosophical Magazine," which I think will prove a highly interesting communication for your scientific readers. I have the honour to be, your very obedient servant,

J. LILLIE THORNTON.

1, Oxford-street, April, 1840.

M. Müller's Results on Diabetic Blood, obtained by Venesection:

Twelve ounces of the blood gave

	oz.	dr.	gr.
Chloride of sodium	0	0	24.5
——— potassium	0	0	13
Sulphate of potash	0	0	9
Carbonate of potash	0	0	17
——— lime	0	0	6.75
——— magnesia	0	0	9
Phosphate of magnesia	0	0	10
Carbonate of soda	0	0	11
Phosphate of soda	0	0	0.5
——— iron	0	0	22.25
Sugar	0	1	5
Albumen	1	3	27
Hæmatosin	1	5	24
Liquid fat	0	0	19
Crystallizable fat	0	0	33
Fibrin	0	0	26
Extractive matter	0	0	22.5
Carbonate of lime	0	0	7.5
Water	8	1	33
	12		

BUFFY & INFLAMMATORY BLOOD.

To the Editor of THE LANCET.

SIR:—On looking over my notes of Dr. Alison's excellent lectures on the Institutes of Medicine, I find the following sentences:—"It may generally be told whether blood will have the buffy coat, by receiving a thin film (a few drops) upon a flat surface. If inflammatory it will have a *mottled* appearance; the same may be seen by the lancet being wetted in the blood. It shows whether blood is inflammatory, long before it will coagulate in a vessel, and show the buff." Again: "A *mottled* appearance in a thin film is very characteristic of sizy blood."

Your obedient servant, H.

Edinburgh, April 25, 1840.

SALE OF POISONS.

THE following illustration of the careless manner in which arsenic is vended in some places, is taken from the report of an inquest, in the "Nottingham Mercury" of April 10, held on the body of Ann Burdett, aged 16 years, who recently committed suicide in that town:—

The deceased had bought the arsenic at the shop of William Yeomans, in Charles-street, druggist, grocer, and beer-seller. The wife of Mr. Yeomans, in her evidence, said, "I recollect deceased coming to my shop for a pennyworth of arsenic; I let her have it. She told me that her mother wanted it to dress a bedstead with. I gave it her in a paper. I did not write upon it. I know nothing of arsenic. I sell it in that way. I should not have let her have it, only I knew her so particularly well. I let her have the arsenic in a paper, screwed up. I told her to be careful with it. I was weighing tobacco, and the pot containing the arsenic stood very near me. I took the tobacco out of the scales, and weighed the arsenic for her. We sell Godfrey's cordial and laudanum. My husband makes the cordial himself. I don't know that the quantity of arsenic I sold to Ann Burdett would poison a score persons. I do not know how much it would take to poison a person. I did not know what she wanted it for, or I should not have let her have it. I can't write at all, neither can I read but very little—some few words. The pot in which the arsenic was, is marked in Latin. I do not know arsenic from anything else that may be white."

William Yeomans, grocer and druggist, deposed that he sells poisons as well as other articles. While out, any one may buy any thing the same as if he is in. Witness often mixes arsenic with soft soap, or oil, to dress bedsteads. Is a druggist and grocer, keeps a beer-house, and paints signs, and jobs. Is, in reality, a pawnbroker by trade.

The pot was not marked "in Latin;" but, on its being produced, it appeared to be marked with some sticky matter, "Arsenic." Mr. and Mrs. Yeomans were reprimanded by the Coroner in the strongest manner. Less than three years ago Yeomans had been examined as to the death of a child, whose life had been sacrificed by a mistake committed in his shop, laudanum having been sold instead of antimonial wine; and that he had then promised to be more careful in future. He also called to his recollection the evidence he had given on that inquest, and which he (the Coroner) had proved, by a personal application at his shop, to be untrue; and in conclusion, cautioned Mrs. Yeomans as to her future conduct. Both the parties appeared destitute of feeling as to the fate of the unfortunate girl, and the jury were surprised at the careless manner in which they appeared to deal out arsenic. Yeomans, after the Coroner's remarks, abruptly asked for his arsenic pot, but the Coroner ordered it to be destroyed.

PETITIONS FOR MEDICAL REFORM.

MR. WAKLEY has presented to the House of Commons a petition, signed by Dr. R. Renwick, Dr. Henry H. Boxwell, and thirty other physicians and surgeons, of the highest respectability, resident in the town and county of WEXFORD, in Ireland; praying for the adoption, by the House, of an "effectual measure of medical reform."

Also from GEORGE YARNOLD, Esq. surgeon, of Romsey, praying the House to take into its earnest consideration the grievances of the medical profession; and praying that a Bill may be passed for "the consolidation of the profession into one representative faculty, conferring equal rights and privileges on all its members."

The medical practitioners of ALYTH have forwarded to Mr. WAKLEY a petition for presentation to the House of Commons, praying the House to adopt such measures as may "unite and consolidate the various branches of the profession into one representative faculty, having full power to regulate the examination of future members and the government of the whole body, and to confer equal rights and privileges upon all its members."

MISPRINT.—In the *Times* of May 7th it is stated, under the head of "Parliamentary Intelligence," that on the 6th instant "Mr. Wakley presented a petition from students of the University of Edinburgh, complaining against the state and condition of the *Medical Hall*," &c. The latter words should, undoubtedly, have been printed *Medical Law*.

SALARIES OF THE MEDICAL OFFICERS OF THE DUBLIN PRISONS.

The attack has commenced upon these gentlemen, and, no doubt, will be prosecuted with the vigour which characterises all attempts at plundering medical men. At the meeting of the grand jury, on Monday, a juror suggested that Dr. Harty's salary be reduced 50*l.* on the half-year: "he thought 300*l.* a-year ample remuneration for medical services." It never entered into this economical gentleman's head to inquire what the amount of those services might be; as they were medical, of course 300*l.* a-year was ample remuneration for them. Mr. Callaghan said, "It is outrageously monstrous that this gentleman should get 400*l.*, I should be for reducing to 200*l.*; we have seen equally respectable persons undertake just as laborious duties, under the Poor-Law Act, for 60*l.* a-year." In short, the general opinion was unanimous that the salary was *monstrous*, and the passing of the presentment was accordingly postponed.

We believe Dr. Harty was one of those most violently opposed to union of the medical profession, and to such a reform of its manifold abuses as might enable its members to make head against their numerous enemies, from without, and from within. We regret he is now likely to feel the fruits of his opposition to those who have the best interests of the profession at heart; and we regret it the more, as we know him to be a most conscientious and competent public officer, and that his services are far from being overpaid by 400*l.* a-year.

The moral we would draw from this matter is that which has been our constant cry through evil report and through good report. Let medical men associate—let them form for themselves a centre, a head, and hands, and a purse. Ten shillings a-year subscribed to the Medical Association of Ireland, by one-half the practitioners of the country, would furnish the means of effectually resisting such attempts as those now in, we fear, successful progress against the officers of the Dublin Prisons.—*Dublin Medical Press*, April 29.

Nerves of the Cornea.—Dr. Pappenheim has succeeded in tracing minute twigs of nerves from the sclerotic coat into the cornea. For this purpose, he immerses the cornea in acetic acid, or in a solution of caustic potass, places it between two plates of glass, and examines it by transmitted light, with a lens of low power. They are most distinctly seen near the periphery of the cornea, where they form plexuses, but become scattered, and appear lost towards the central part. They are smaller than the fibres composing the lamellæ.—*Monatschrift für Medecin*, 1839.

SIR CHARLES BELL.

We learn with very great pleasure, from the communication of Sir Charles Bell to a morning paper, dated from the Burlington Hotel, that he is "perfectly satisfied with his position as a Professor in the University of Edinburgh, and knows of no inducement to quit it."

PATHOLOGICAL MEETING OF THE MEDICO-CHIRURGICAL SOCIETY.

We are prevented, by a press of important matter, from giving the report of this meeting this week. It shall be inserted in the next Number.

TO CORRESPONDENTS.

The appendix to the letter of *Mr. Dodd*, of Chichester, reached us too late to be added to his first communication; but the contents of our Number this week may afford him reason to hope that the matter of which he writes will be effectually rectified before the legislature has finished its work as regards inoculation for small-pox.

Phrenological Vagaries.—The publication of our correspondent's letter would be calculated to injure, by casting undeserved ridicule upon the science; which is evidently not the writer's intention.

Before the letter of *Dr. Epps* could be published, the whole aspect of the Vaccination question will have been changed in the House of Commons.

The "*Remarkable Twin Case*," at Sheffield, would, we fear, if published, be calculated to damage the reputation of the narrator amongst the critics. It is therefore withheld.

Counter opinions relative to the use of ergot of rye have occupied so much of our pages already, and the cases of our correspondent from *Rochdale* offer so little novelty, that he must excuse us if we decline the insertion of his communication.

Mr. Lowther's communication is deferred till next week, from want of space.

Medicus.—A ceaseless attendance at the elbow of M. Magendie might have enabled us to reply. We have never *heard* of, or *read* of such an event.

We have received at a late hour the "Familiar Epistle" of *Alethes*, No. 2.

The communications of *An Old Subscriber*, *Mr. Simpson*, *Mr. F. Stokes*, and *Mr. King*, have been received.

Showing the No. of Deaths from all Causes, Registered in the 5 Weeks, ending Saturday, April 25, 1840

Causes of Death.	March. 22 to 28	March. 29 to Apr 4	April. 5 to 11	April. 12 to 18	April. 19 to 25	Weekly Av. 1838, (corrected.)
Small-Pox	12	7	11	6	9	76
Measles	15	14	13	21	20	12
Scarlatina	28	45	34	36	36	30
Hooping-Cough	17	16	17	30	33	42
Croup	11	8	9	5	9	7
Thrush	2	4	1	3	2	6
Diarrhœa	....	2	2	....	5	8
Dysentery	2	1	1	1	....	2
Cholera	....	1	....	....	....	.3
Influenza	1	1	2	....	....	1
Typhus	15	30	23	31	30	82
Erysipelas	4	9	7	5	6	8
Syphilis	....	1	1	....	....	1
Hydrophobia	....	....	....	....	....	.3
TOTAL	107	139	121	138	147	276
Cephalitis	9	11	9	10	7	11
Hydrocephalus	33	36	36	41	46	35
Apoplexy	14	23	18	12	17	20
Paralysis	14	24	18	14	11	15
Convulsions	60	51	56	74	65	68
Epilepsy	3	6	5	6	4	4
Insanity	3	3	....	....	1	1
Delirium Tremens	1	2	....	3	1	1
Dis. of Brain, &c.	9	12	4	6	13	6
TOTAL	146	169	146	165	165	161
Quinsey	....	5	2	1	....	2
Bronchitis	16	11	7	15	14	9
Pleurisy	3	3	2	1	....	2
Pneumonia	71	85	68	74	78	74
Hydrothorax	5	6	3	3	4	6
Asthma	35	35	23	32	20	29
Consumption	151	145	159	149	144	132
Dis. of Lungs, &c.	22	20	17	13	14	11
TOTAL	303	310	281	289	274	285
Pericarditis	1	....	1	....	....	.3
Aneurism	....	1	2	....	2	.5
Dis. of Heart, &c.	15	19	22	20	17	15
TOTAL	16	20	25	20	19	16
Teething	14	13	14	21	15	15
Gastri.—Enteritis	20	21	16	11	11	18
Peritonitis	3	1	3	2	1	1
Tabes Mesenterica	5	4	6	4	5	3
Ascites	2	....	....	....	2	.3
Ulceration	1	3	....	....	1	1
Hernia	2	3	2	....	5	2
Colic or Ileus	2	....	1	1	2	4
Dis. of Stomach	3	2	7	9	3	4
Hepatitis	1	....	....	2	....	1
Jaundice	1	3	2	3	2	2
Dis. of Liver, &c.	12	4	9	2	10	8
TOTAL	67	44	60	55	57	59
Nephritis	...	....	....	1	....	.5
Diabetes	....	....	....	....	....	.4
Stone	....	....	....	1	1	.4
Stricture	2	....	2	....	....	.6
Dis. Kidneys, &c.	4	2	3	1	3	3
TOTAL	6	2	5	3	4	5

Causes of Death.	March. 22 to 28	March. 29 to Apr 4	April. 5 to 11	April. 12 to 18	April. 19 to 25	Weekly Av. 1838, (corrected.)
Childbed	11	5	6	5	7	8
Ovarian Dropsy	1	....	....	....	....	.3
Dis. of Uterus, &c.	2	6	....	1	2	2
TOTAL	14	11	6	6	9	11
Rheumatism	5	4	3	3	4	4
Dis. of Joints, &c.	3	2	4	5	4	4
TOTAL	8	6	7	7	8	8
Ulcer	....	....	....	....	....	.4
Fistula	....	....	1	1	1	.4
Dis. of Skin, &c.	1	....	....	....	1	.4
TOTAL	1	....	1	1	2	1
Inflammation	7	11	6	4	7	19
Hæmorrhage	4	2	3	4	4	4
Dropsy	31	43	30	32	30	35
Abscess	4	3	4	7	3	4
Mortification	6	6	5	7	6	4
Scrofula	2	3	4	2	2	1
Carcinoma	7	7	10	9	5	6
Tumour	1	1	1	3	2	1
Gout	1	1	2	1	1	1
Atrophy	4	7	3	2	5	4
Debility	22	33	9	18	18	12
Malformations	....	....	1	2	1	1
Sudden Deaths	13	27	9	6	16	13
TOTAL	102	145	87	97	106	105
Old Age	82	78	85	68	67	82
Intemperance	....	....	....	1	....	.4
Privation	....	....	....	....	....	.6
Violent Deaths	24	48	25	31	28	27
TOTAL	24	48	25	32	28	28
Causes not Spec.	5	4	2	3	2	13
Deaths, all Causes	881	976	851	885	888	1051
No. of Week	12	13	14	15	16	....

1840.	Ages. 0 to 15	15 to 60	60 & upwards
March 22nd to 28th	361	310	207
„ 29th to April 4th	387	361	223
April 5th to 11th	306	309	176
„ 12th to 18th	399	311	173
„ 19th to 25th	408	304	176
Weekly Average, 1838	484	365	199

	Estimated Pop. 1840.	March 22 to 28.	March 29 to April 4.	April 5 to 11.	April 12 to 18.	April 19 to 25.	Weekly Av. 1838.
West Districts	308,921	151	158	134	144	144	161
North Districts	414,458	173	180	162	180	160	183
Central Districts	369,722	180	189	153	151	174	208
East Districts	411,634	169	203	176	190	186	249
South Districts	450,265	208	246	222	211	224	249
	1,955,000	881	976	851	885	888	1,051